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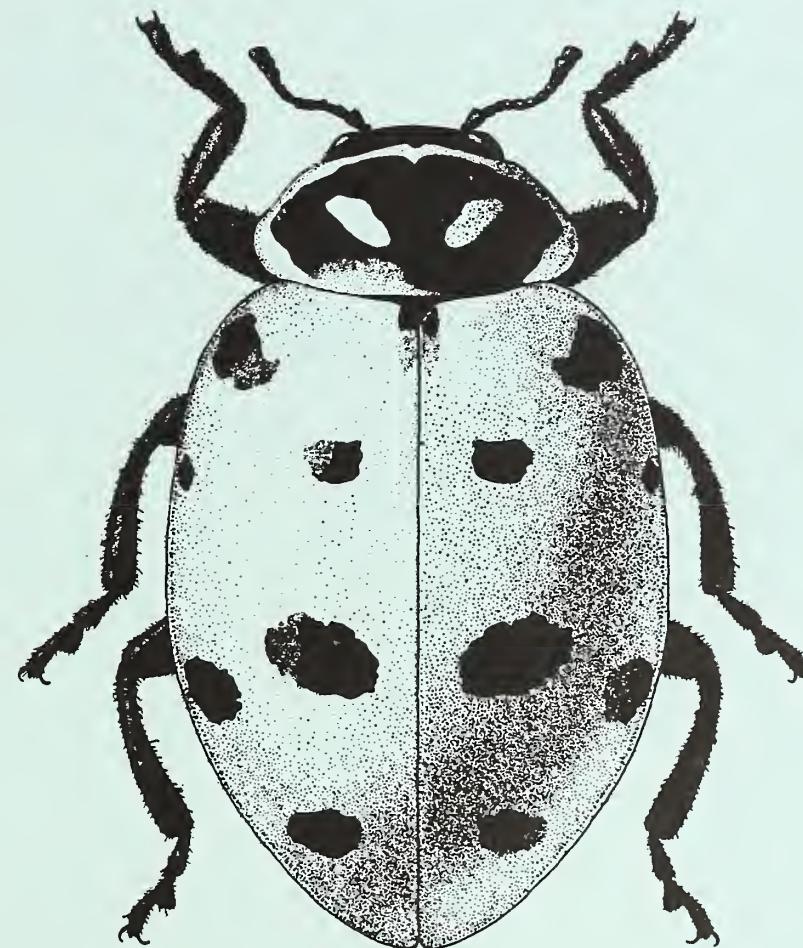
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# Releases of Beneficial Organisms in the United States and Territories—1983



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## Abstract

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In 1983, well over 15 million individuals of at least 164 species of insect and mite parasites and predators (almost exclusively of foreign origin) were released against at least 76 insect and mite pests (also predominantly introduced species) in the United States and its territories. Also released that year were over 11 million individuals of 29 species of exotic natural enemies of 21 species of introduced weeds, 3 microbial pathogens, and 7 species of pollinators and other beneficial organisms. These releases (from either field collections or cultures of foreign origin) or recolonizations (from previously established populations in the United States) were made in 51 states, territories, and the District of Columbia. U.S. facilities shipped over 80 biological control agents and pollinators to foreign countries in 1983.

**Keywords:** Biological control, introductions, natural enemies, parasites (parasitoids), pollinators, predators, weed control agents.

This is the third annual report on the releases of introduced beneficial organisms in the United States and its territories for biological control of pests or for crop pollination. It is produced from the database Releases of Beneficial Organisms (ROBO) of the USDA-ARS Biological Control Documentation Center, BARC-West, Building 004, Beltsville, MD 20702; telephone (301) 504-6350. The report does not contain many details published in the first two reports, but those data and more detailed reports are available from the Center as photocopies or on diskette. The ROBO database can also produce computer reports of shipments sent or received; of releases from a facility, state, or territory; and of individual releases.

This report will probably be the last one published in this form since the information will be available in electronic formats in the future.

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# Releases of Beneficial Organisms in the United States and Territories--1983<sup>1</sup>

Compiled by Jack R. Coulson

## Introduction

Biological control of pests can be improved by good management of data. The search for, collection, and importation of exotic natural enemies for release, establishment, and dispersal as biological control agents of pests in the United States and its Territories represent excellent opportunities, indeed an obligation, to collect and store valuable information of present and future scientific and regulatory interest. The critical need to compile such data for improving biological pest control is well recognized (Bottrell et al. 1976; USDA 1978; Battenfield 1983; Coulson 1992a). This type of information is of current and historical interest not only to biological control and integrated pest management scientists and administrators but also to systematists and ecologists. Unfortunately, detailed records of biological control attempts have often not been published, or even kept in many instances (Greathead 1986). Compilations of the results of these activities (for example, Clausen 1978) are usually based only on generally incomplete published information.

The introduction of living plant germplasm into the United States has long been well documented in a series of annual publications of the U.S. Department of Agriculture, the latest being for 1992 importations (Norris, [1993]), and by the computerized Germplasm Resources Information Network (GRIN) (Perry et al. 1988). This publication is the third of a series designed to similarly document the importation of other beneficial organisms into the United States and its

Territories. Similar reports, for 1981 and 1982, have been published (Coulson et al. 1988; Coulson 1992b; copies of the latter are still available). These present information (mostly otherwise unpublished) on one of the activities involved in importation programs, that is, the field or greenhouse release of introduced biological control agents and pollinators.

As indicated in the Table of Contents, this report does not contain the same details published in Coulson et al. (1988) and Coulson (1992b). Only summary information on releases (as given in Part B of Sections I and II, and Sections V, VI and IX of previous reports) are given here, together with Sections III, IV, and VII, listing releases of introduced microbial organisms, releases of introduced pollinators and other beneficials, and shipments to foreign countries in 1983, respectively. All or portions of the other, more detailed sections can be obtained upon request (as either a single photocopy or data on diskette in WordPerfect® or ASCII format) from the Biological Control Documentation Center. The following specialized Wang-produced reports can also be obtained:

1. annual reports of releases by State or facility,
2. detailed reports of individual releases,
3. annual reports of shipments or consignments from each domestic facility,
4. annual reports of materials received by State or facility,
5. detailed reports of individual shipments (quarantine and nonquarantine),
6. annual reports of shipments from each overseas or foreign facility,
7. annual reports of foreign shipments received by each domestic facility,
8. detailed reports of individual foreign or overseas shipments.

<sup>1</sup>Although the data on which this publication is based were collected in 1983, much of the information presented is not published elsewhere. These data are useful as scientific and historical records of the importation and release of exotic organisms in the United States and its Territories. Further details on these records can be obtained from the pertinent organizations listed in the unpublished section VIII of the complete report, a photocopy of which is available, or from the database. This book may be the last in which these data will be published in an annual format since such information for subsequent years will be readily available in electronic form from the ROBO data base.

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Examples of individual release reports (item 2 in the preceding list) have been given in Coulson et al. (1988) and Coulson (1992b).

Brief descriptions of the ROBO data base and its development have been published (Coulson, 1987, 1992a, 1992b). The data base still resides on the Wang computer, but efforts are now underway to reprogram ROBO to run in Oracle on a Solbourne UNIX minicomputer via the Germplasm Resources Information Network (GRIN), which is accessible via the Internet. Publication of a detailed description of the data base is planned after reprogramming has been completed.

In the meantime, entry of 1984 importation and release data is underway on the Wang, which is expected to be the last use of the Wang system. After entry of 1984 records is complete, those data, together with all 1981, 1982 and 1983 data, completely updated as to nomenclatural changes and other new information, will be published on CD-ROM. Future ROBO reports will be available on line, but periodic publication of such comprehensive data on CD-ROM, and of core data such as contained in this book, is planned.

As noted in previous reports, this publication is modeled after the annual bulletin of releases of biological control organisms in Canada published since the 1930s. The most recent issue reports 1991 releases (Sarazin 1992).

Most of the data included in ROBO was provided by many of the research and other scientists and action agency personnel listed in unpublished section VIII, copies of which are available from the Documentation Center. The voluntary cooperation of those many contributors is greatly appreciated.

All scientific names in this publication have been verified by systematists of the Systematic Entomology Laboratory (SEL) and the Systematic Botany and Mycology Laboratory (SBML), ARS, Beltsville, MD. Their efforts are very much appreciated. The most current names for the organisms according to these specialists as of December 1993 have been used in this publication. The name under which the organism was originally imported or released is retained in the ROBO data base, and searches can be made using both original and current names. The higher classification system for arthropods is that used by SEL scientists. The system used for plants in section II is that of Cronquist (1981).

The scientific name in this book for the plant in the United States known as Russian thistle, *Salsola australis* R. Br. (=*S. iberica*, *S. pestifer*, or *S. kali* of authors), is in accordance with the opinion of J.H. Kirkbride, SBML (personal communication), based on Botschantzev (1974). The scientific name of the plant known as Dalmatian toadflax used in this report is *Linaria dalmatica* (L.) Mill. based on treatment by Sutton (1988). In regard to the name for musk or nodding thistle used in this report, we have returned to the use of, as in the 1981 report (Coulson et al., 1988), the subspecific epithet *Carduus nutans* subsp. *leiophyllus* (Petr.) Stoj. & Stef. (=*C. thoermeri* Weinm. *sensu* McCarty), in accordance with the treatment of Desrochers et al., 1988a,b, and rules of botanical nomenclature (J. H. Wiersema, SBML, pers. commun.); some of the insect releases against musk thistle (as *C. nutans* or *C. thoermeri*) in the eastern U.S. may have been made against *C. nutans* subsp. *nutans*, since those authors record that subspecies to be prevalent in eastern Canada. Though the scientific name *Euphorbia esula* L. is used for the weed known as "leafy spurge," it must be pointed out that the taxonomy of North American leafy spurge is still controversial among botanists, some of whom consider North American populations to be a complex of species and hybrids (Radcliffe-Smith 1985; Mahlberg et al. 1987; Crompton et al 1990; Holden and Mahlberg 1992). The scientific and common names of all plants recorded here agree with those used by the ARS Germplasm Resources Information Network (GRIN), as checked by J. H. Wiersema (SBML); author abbreviations are in accordance with Brummitt and Powell (1992), as used in the GRIN system.

Suggestions for citation in publications of release data from the ROBO data base were given in previous published ROBO reports (Coulson et al. 1988, Coulson 1992b), as were explanations of some of the data entries in parts A of sections I and II.

ROBO is a dynamic data base, capable of continual updating with new information. Therefore, readers are encouraged to notify the ARS Biological Control Documentation Center of (1) any errors found in this or previous ROBO reports, (2) additional or currently missing information as indicated by question marks, and (3) any changes to scientific names as a result of the publication of descriptions of species recorded here as "sp.," or otherwise incomplete names, or as a result of new taxonomic studies. Many of these kinds of corrections to earlier ROBO reports are reflected in the present publication. Comments can be addressed to the Biological Control Documentation Center, Bldg. 004, BARC-West, Beltsville, MD 20705.

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## Abbreviations Used

### Types of Beneficial Organisms

MI - microbial  
PA - parasite  
PO - pollinator  
PR - predator  
WE - weed feeder  
OT - other

### Developmental Stages of Organisms Released

A - adults  
C - cocoons  
DHA, DHP, etc. - diseased host adults, diseased host pupae, and so forth  
E - eggs  
EM - egg masses  
I - immatures  
J - juveniles (for nematodes)  
L - larvae  
MU - mummies  
N - nymphs  
P - pupae, puparia  
PHA, PHE, etc. - parasitized host adults, parasitized host eggs, and so forth

### Other Abbreviations

e - estimate

### States and Territories

AK Alaska  
AL Alabama  
AR Arkansas  
AS American Samoa  
AZ Arizona  
CA California  
CO Colorado  
CT Connecticut  
CZ Canal Zone  
DC District of Columbia  
DE Delaware  
FL Florida  
FM Federated States of Micronesia  
GA Georgia  
GU Guam  
HI Hawaii  
IA Iowa  
ID Idaho  
IL Illinois  
IN Indiana  
KS Kansas  
KY Kentucky  
LA Louisiana  
MA Massachusetts  
MD Maryland  
ME Maine  
MH Marshall Islands  
MI Michigan  
MN Minnesota

MO Missouri  
MP North Mariana Islands  
MS Mississippi  
NC North Carolina  
MT Montana  
ND North Dakota  
NE Nebraska  
NH New Hampshire  
NJ New Jersey  
NM New Mexico  
NV Nevada  
NY New York  
OH Ohio  
OK Oklahoma  
OR Oregon  
PA Pennsylvania  
PR Puerto Rico  
PW Palau  
RI Rhode Island  
SC South Carolina  
SD South Dakota  
TN Tennessee  
TX Texas  
UT Utah  
VA Virginia  
VI Virgin Islands (U.S.)  
VT Vermont  
WA Washington  
WI Wisconsin  
WV West Virginia  
WY Wyoming

**ANNUAL REPORT OF INTRODUCED BENEFICIAL ORGANISMS RELEASED IN THE UNITED STATES AND TERRITORIES - 1983**

**SECTION I -INTRODUCED PARASITES AND PREDATORS RELEASED IN U.S. AND TERRITORIES - 1983**

**PART B - Target Host/Prey Arranged Alphabetically by Class, Order, Family, Genus, Species with Alphabetical List of Introduced Beneficial Species Released Against It; Followed by Summary of Target Host/Prey Arranged Alphabetically by Common Name**

---

**PHYLUM: ARTHROPODA**

Class: Arachnida (Subclass Acari)

Order of Host/Prey: Acariformes

Family of Host/Prey: Tetranychidae

Host/Prey Genus, species, author: *Oligonychus punicae* (Hirst)

Common name of host/prey: avocado brown mite

Species Released: *Euseius fructicola*

*Euseius scutalis*

*Euseius sp. nr. citrifolius*

*Euseius vivax*

*Galendromus occidentalis*

*Iphiseius degenerans*

*Phytoseiulus macropilis*

*Typhlodromips sp. nr. tunis*

*Typhlodromus tiliae*

*Euseius quetzali*

*Euseius sp. nr. concordis*

*Euseius stipulatus*

*Galendromus annectens*

*Galendromus porresi*

*Neoseiulus californicus*

*Phytoseius hawaiiensis*

*Typhlodromus rickeri*

Host/Prey Genus, species, author: *Panonychus citri* McGregor

Common name of host/prey: citrus red mite

Species Released: *Amblyseius limonicus*

*Euseius fructicola*

*Euseius quetzali*

*Euseius sp. nr. concordis*

*Euseius stipulatus*

*Galendromus annectens*

*Neoseiulus californicus*

*Typhlodromips sp. nr. tunis*

*Typhlodromus cornus*

*Typhlodromus tiliae*

*Euseius concordis*

*Euseius hibisci*

*Euseius scutalis*

*Euseius sp. nr. citrifolius*

*Euseius vivax*

*Galendromus porresi*

*Phytoseius hawaiiensis*

*Typhlodromips swirskii*

*Typhlodromus rickeri*

Host/Prey Genus, species, author: *Tetranychus cinnabarinus* (Boisduval)

Common name of host/prey: carmine spider mite

Species Released: *Amblyseius longispinosus*

*Neoseiulus californicus*

*Galendromus occidentalis*

*Scolothrips sexmaculatus*

Host/Prey Genus, species, author: *Tetranychus urticae* Koch

Common name of host/prey: twospotted spider mite

Species Released: *Amblyseius sp.*

*Scymnus sp.*

*Phytoseiulus persimilis*

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Class: Insecta

Order of Host/Prey: Blattodea

Family of Host/Prey: Blattellidae

Host/Prey Genus, species, author: *Supella longipalpa* (Fabricius)

Common name of host/prey: brownbanded cockroach

Species Released: *Comperia merceti*

Order of Host/Prey: Coleoptera

Family of Host/Prey: Chrysomelidae

Host/Prey Genus, species, author: *Crioceris asparagi* (Linnaeus)

Common name of host/prey: asparagus beetle

Species Released: *Lemophagus crioceritor*  
*Tetrastichus coeruleus*

*Meigenia mutabilis*  
*Tetrastichus crioceridis*

Host/Prey Genus, species, author: *Crioceris duodecimpunctata* (Linnaeus)

Common name of host/prey: spotted asparagus beetle

Species Released: *Tetrastichus crioceridis*

Host/Prey Genus, species, author: *Crioceris* spp.

Common name of host/prey: --

Species Released: *Meigenia mutabilis*

*Tetrastichus crioceridis*

Host/Prey Genus, species, author: *Leptinotarsa decemlineata* (Say)

Common name of host/prey: Colorado potato beetle

Species Released: *Edovum puttleri*

Host/Prey Genus, species, author: *Oulema melanopus* (Linnaeus)

Common name of host/prey: cereal leaf beetle

Species Released: *Diaparsis temporalis*  
*Tetrastichus julis*

*Lemophagus curtus*

Host/Prey Genus, species, author: *Xanthogaleruca luteola* (Müller)

Common name of host/prey: elm leaf beetle

Species Released: *Erynniopsis antennata*

*Oomyzus gallerucae*

Family of Host/Prey: Coccinellidae

Host/Prey Genus, species, author: *Epilachna varivestis* Mulsant

Common name of host/prey: Mexican bean beetle

Species Released: *Coccipolitus epilachnae*  
*Pediobius foveolatus*

*Oplomus ebulinus*

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**Family of Host/Prey: Curculionidae**

Host/Prey Genus, species, author: *Anthonomus grandis* Boheman  
Common name of host/prey: boll weevil  
Species Released: *Catolaccus grandis*  
*Heterospilus megalopus*

*Heterospilus annulatus*

Host/Prey Genus, species, author: *Hypera brunniipennis* (Boheman)  
Common name of host/prey: Egyptian alfalfa weevil  
Species Released: *Bathyplectes anurus*

*Microctonus aethiopoides*

Host/Prey Genus, species, author: *Hypera postica* (Gyllenhal)

Common name of host/prey: alfalfa weevil  
Species Released: *Bathyplectes anurus*  
*Bathyplectes stenostigma*  
*Microctonus aethiopoides*  
*Oomyzus incertus*

*Bathyplectes curculionis*  
*Dibrachoides dynastes*  
*Microctonus colesi*  
*Stethynium empoascae*

Host/Prey Genus, species, author: *Sitona hispidulus* (Fabricius)  
Common name of host/prey: clover root curculio  
Species Released: *Microctonus aethiopoides*

**Family of Host/Prey: Nitidulidae**

Host/Prey Genus, species, author: *Carpophilus hemipterus* (Linnaeus)  
Common name of host/prey: driedfruit beetle  
Species Released: *Cerchysiella utilis*

Host/Prey Genus, species, author: *Carpophilus humeralis* (Fabricius)  
Common name of host/prey: pineapple souring beetle  
Species Released: *Cerchysiella utilis*

**Family of Host/Prey: Scarabaeidae**

Host/Prey Genus, species, author: *Popillia japonica* Newman  
Common name of host/prey: Japanese beetle  
Species Released: *Istocheta aldrichi*

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**Order of Host/Prey: Diptera**

**Family of Host/Prey: Agromyzidae**

Host/Prey Genus, species, author: *Liriomyza sativae* Blanchard

Common name of host/prey: vegetable leafminer

Species Released: *Chrysocharis caribea*

*Chrysocharis oscinidis*

*Chrysonotomyia punctiventris*

*Ganaspidium utilis*

*Halticoptera circulus*

*Opius dissitus*

Host/Prey Genus, species, author: *Liriomyza trifolii* (Burgess)

Common name of host/prey: leafminer

Species Released: *Chrysocharis caribea*

*Chrysocharis oscinidis*

*Chrysonotomyia punctiventris*

*Diglyphus begini*

*Ganaspidium utilis*

*Halticoptera circulus*

*Opius dissitus*

**Family of Host/Prey: Muscidae**

Host/Prey Genus, species, author: *Haematobia irritans* (Linnaeus)

Common name of host/prey: horn fly

Species Released: *Atholus maindronii*

[See also Section IV, p. 25, for releases of other beneficials against cattle dung & horn fly]

Host/Prey Genus, species, author: *Musca domestica* Linnaeus

Common name of host/prey: house fly

Species Released: *Atholus maindronii*

*Muscidifurax zaraptor*

Host/Prey Genus, species, author: *Stomoxys calcitrans* (Linnaeus)

Common name of host/prey: stable fly

Species Released: *Trichopria stomoxydis*

**Family of Host/Prey: Tephritidae**

Host/Prey Genus, species, author: *Anastrepha suspensa* (Loew)

Common name of host/prey: Caribbean fruit fly

Species Released: *Diachasmimorpha tryoni*

*Psyttalia concolor*

*Psyttalia incisi*

Host/Prey Genus, species, author: *Ceratitis capitata* (Wiedemann)

Common name of host/prey: Mediterranean fruit fly

Species Released: *Diachasmimorpha longicaudatas*

*Steinernema carpocapsae*

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Family of Host/Prey: Tephritidae (continued)

Host/Prey Genus, species, author: *Dacus cucurbitae* Coquillett  
Common name of host/prey: melon fly  
Species Released: *Psytalia incisi*

Host/Prey Genus, species, author: *Dacus dorsalis* Hendel  
Common name of host/prey: oriental fruit fly  
Species Released: *Psytalia incisi*

Host/Prey Genus, species, author: *Rhagoletis completa* Cresson  
Common name of host/prey: walnut husk fly  
Species Released: *Biosteres sublaevis*

Order of Host/Prey: Heteroptera

Family of Host/Prey: Miridae

Host/Prey Genus, species, author: *Adelphocoris lineolatus* (Goeze)  
Common name of host/prey: alfalfa plant bug  
Species Released: *Peristenus adelphocoridis* Peristenus digoneutis  
*Peristenus stygicus*

Host/Prey Genus, species, author: *Lygus hesperus* Knight  
Common name of host/prey: western tarnished plant bug  
Species Released: *Peristenus stygicus*

Host/Prey Genus, species, author: *Lygus lineolaris* (Palisot)  
Common name of host/prey: tarnished plant bug  
Species Released: *Peristenus digoneutis* Peristenus stygicus

Host/Prey Genus, species, author: *Lygus* spp.  
Common name of host/prey: plant bugs  
Species Released: *Peristenus stygicus*

Family of Host/Prey: Pentatomidae

Host/Prey Genus, species, author: *Nezara viridula* (Linnaeus)  
Common name of host/prey: southern green stink bug  
Species Released: *Telenomus chloropus* *Trichopoda pilipes*  
*Trissolcus basalis*

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Order of Host/Prey: Homoptera

Family of Host/Prey: Aleyrodidae

Host/Prey Genus, species, author: *Aleurocanthus spiniferus* (Quaintance)

Common name of host/prey: orange spiny whitefly

Species Released: *Encarsia smithi*

Host/Prey Genus, species, author: *Aleurodicus dispersus* Russell

Common name of host/prey: spiraling whitefly

Species Released: *Delphastus pusillus*

*Encarsia* sp.

*Nephaspis oculata*

*Encarsia ?haitiensis*

*Nephaspis bicolor*

Host/Prey Genus, species, author: *Aleurothrixus floccosus* (Maskell)

Common name of host/prey: woolly whitefly

Species Released: *Eretmocerus* sp.

Host/Prey Genus, species, author: *Dialeurodes citri* (Ashmead)

Common name of host/prey: citrus whitefly

Species Released: *Encarsia lahorensis*

Host/Prey Genus, species, author: *Parabemisia myricae* (Kuwana)

Common name of host/prey: Japanese bayberry whitefly

Species Released: *Encarsia* n. sp. I Förster

*Encarsia* n. sp.

*Eretmocerus* n. sp. Haldeman

Host/Prey Genus, species, author: *Trialeurodes vaporariorum* (Westwood)

Common name of host/prey: greenhouse whitefly

Species Released: *Encarsia formosa*

Family of Host/Prey: Aphididae

Host/Prey Genus, species, author: *Acyrtosiphon kondoi* Shinji

Common name of host/prey: blue alfalfa aphid

Species Released: *Aphidius eadyi*

*Aphidius ervi*

*Aphidius smithi*

Host/Prey Genus, species, author: *Acyrtosiphon pisum* (Harris)

Common name of host/prey: pea aphid

Species Released: *Aphidius ervi*

*Ephedrus plagiator*

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**Family of Host/Prey: Aphididae (continued)**

Host/Prey Genus, species, author: *Callaphis juglandis* (Goeze)  
Common name of host/prey: large walnut aphid  
Species Released: *Praon callaphis*

Host/Prey Genus, species, author: *Schizaphis graminum* (Rondani)

Common name of host/prey: greenbug  
Species Released: *Aphidius colemani*  
*Hippodamia variegata*

*Ephedrus plagiator*  
*Lioadalia flavomaculata*

Host/Prey Genus, species, author: *Tinocallis platani* (Kaltenbach)

Common name of host/prey:  
Species Released: *Trioxys tenuicaudus*

Host/Prey Genus, species, author: aphids

Common name of host/prey: --  
Species Released: *Coccinella septempunctata*

*Harmonia axyridis*

Host/Prey Genus, species, author: aphids, pecan

Common name of host/prey: --  
Species Released: *Harmonia axyridis*

**Family of Host/Prey: Cicadellidae**

Host/Prey Genus, species, author: *Empoasca fabae* (Harris)  
Common name of host/prey: potato leafhopper  
Species Released: *Anagrus empoascae*  
*Anagrus giraulti*  
*Stethynium empoascae*

*Anagrus flaveolus*  
*Arescon enocki*

**Family of Host/Prey: Coccidae**

Host/Prey Genus, species, author: *Pulvinaria delottoi* Gill  
Common name of host/prey: --  
Species Released: *Exochomus flavipes*  
*Metaphycus funicularis*

*Hyperaspis senegalensis hottentota*  
*Metaphycus stramineus*

Host/Prey Genus, species, author: *Pulvinaria mesembryanthemi* (Vallot)

Common name of host/prey: ice plant scale  
Species Released: *Encyrtus saliens*  
*Hyperaspis senegalensis hottentota*  
*Metaphycus stramineus*

*Exochomus flavipes*  
*Metaphycus funicularis*

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### Family of Host/Prey: Coccidae (continued)

Host/Prey Genus, species, author: *Saissetia oleae* (Olivier)

Common name of host/prey: black scale

Species Released: *Aloencyrtus saissetiae*

*Coccophagus rusti*

*Prococcophagus saissetiae*

### Family of Host/Prey: Delphacidae

Host/Prey Genus, species, author: *Perkinsiella saccharicida* Kirkaldy

Common name of host/prey: sugarcane delphacid

Species Released: *Tytthus mundulus*

### Family of Host/Prey: Diaspididae

Host/Prey Genus, species, author: *Pseudaulacaspis prunicola* (Maskell)

Common name of host/prey: --

Species Released: *Arrhenophagus albitibiae*

Host/Prey Genus, species, author: *Unaspis euonymi* (Comstock)

Common name of host/prey: euonymus scale

Species Released: *Cybocephalus ?nipponicus*

*Encarsia citrina*

*Encarsia fasciata*

*Pteroptrix n. sp.*

### Family of Host/Prey: Margarodidae

Host/Prey Genus, species, author: *Matsucoccus resinosae* Bean & Godwin

Common name of host/prey: red pine scale

Species Released: *Harmonia axyridis*

### Family of Host/Prey: Psyllidae

Host/Prey Genus, species, author: *Cacopsylla pyricola* (Förster)

Common name of host/prey: pear psylla

Species Released: *Anthocoris nemorum*

*Chrysoperla carnea*

*Menochilus sexmaculatus*

*Prionomitus mitratus*

### Order of Host/Prey: Lepidoptera

#### Family of Host/Prey:

Host/Prey Genus, species, author: potential alternate lepidopterous hosts

Common name of host/prey:

Species Released: *Compsilura concinnata*

*Meteorus pulchricornis*

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Family of Host/Prey: Arctiidae

Host/Prey Genus, species, author: *Hyphantria cunea* (Drury)

Common name of host/prey: fall webworm

Species Released: *Aleiodes lymantriae*

*Brachymeria lasus*

*Brachymeria intermedia*

*Pimpla disparis*

Family of Host/Prey: Coleophoridae

Host/Prey Genus, species, author: *Coleophora laricella* (Hübner)

Common name of host/prey: larch casebearer

Species Released: *Diadegma laricinellum*

Family of Host/Prey: Crambidae

Host/Prey Genus, species, author: *Eoreuma loftini* (Dyar)

Common name of host/prey: Mexican rice borer

Species Released: *Allorhogas pyralophagus*

*Rhaconotus roslinensis*

*Pediobius furvus*

Family of Host/Prey: Gelechiidae

Host/Prey Genus, species, author: *Keiferia lycopersicella* (Walsingham)

Common name of host/prey: tomato pinworm

Species Released: *Campoplex n. sp.*

Host/Prey Genus, species, author: *Pectinophora gossypiella* (Saunders)

Common name of host/prey: pink bollworm

Species Released: *Goniozus legneri*

*Habrobracon gelechiae*

Family of Host/Prey: Gracillariidae

Host/Prey Genus, species, author: *Phyllonorycter blancardella* (Fabricius)

Common name of host/prey: spotted tentiform leafminer

Species Released: *Pholetesor pedias*

Host/Prey Genus, species, author: *Phyllonorycter crataegella* (Clemens)

Common name of host/prey: apple blotch leafminer

Species Released: *Pholetesor pedias*

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Family of Host/Prey: Lymantriidae

Host/Prey Genus, species, author: *Lymantria dispar* (Linnaeus)

Common name of host/prey: gypsy moth

Species Released: *Aleiodes lymantriae*

*Compsilura concinnata*

*Glyptapanteles flavicoxis*

*Hyposoter lymantriae*

*Steinernema feltiae*

*Anastatus disparis*

*Cotesia melanoscelus*

*Glyptapanteles indiensis*

*Meteorus pulchricornis*

Family of Host/Prey: Noctuidae

Host/Prey Genus, species, author: *Anticarsia gemmatalis* Hübner

Common name of host/prey: velvetbean caterpillar

Species Released: *Microcharops anticarsiae*

*Zelomorpha* sp.

Host/Prey Genus, species, author: *Helicoverpa zea* (Boddie)

Common name of host/prey: corn earworm, bollworm

Species Released: *Microplitis demolitor*

*Trichogramma pretiosum*

Host/Prey Genus, species, author: *Heliothis virescens* (Fabricius)

Common name of host/prey: tobacco budworm

Species Released: *Microplitis demolitor*

*Palexorista laxa*

*Trichogramma pretiosum*

Host/Prey Genus, species, author: *Pseudoplusia includens* (Walker)

Common name of host/prey: soybean looper

Species Released: *Cotesia ruficrus*

Host/Prey Genus, species, author: *Spodoptera exigua* (Hübner)

Common name of host/prey: beet armyworm

Species Released: *Telenomus solitus*

Host/Prey Genus, species, author: *Spodoptera frugiperda* (J.E.Smith)

Common name of host/prey: fall armyworm

Species Released: *Microplitis rufiventris*

Family of Host/Prey: Pieridae

Host/Prey Genus, species, author: *Pieris rapae* (Linnaeus)

Common name of host/prey: imported cabbageworm

Species Released: *Cotesia rubecula*

*Hyposoter ebeninus*

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### Family of Host/Prey: Plutellidae

Host/Prey Genus, species, author: *Plutella xylostella* (Linnaeus)

Common name of host/prey: diamondback moth

Species Released: *Cotesia plutellae*

*Diadromus collaris*

### Family of Host/Prey: Pyralidae

Host/Prey Genus, species, author: *Amyelois transitella* (Walker)

Common name of host/prey: navel orangeworm

Species Released: *Goniozus legneri*

*Scambus simulator*

*Trichogrammatoides annulata*

Host/Prey Genus, species, author: *Ectomyelois ceratoniae* (Zeller)

Common name of host/prey: carob moth

Species Released: *Goniozus legneri*

### Family of Host/Prey: Saturniidae

Host/Prey Genus, species, author: *Hemileuca oliviae* Cockerell

Common name of host/prey: range caterpillar

Species Released: *Brachymeria intermedia*

*Brachymeria lasus*

*Pimpla disparis*

### Family of Host/Prey: Tortricidae

Host/Prey Genus, species, author: *Choristoneura fumiferana* (Clemens)

Common name of host/prey: spruce budworm

Species Released: *Ancistrocerus catskill*

*Ancistrocerus tuberculocephalus*

*Euodynerus hidalgo*

*Euodynerus leucomelas*

Host/Prey Genus, species, author: *Cydia pomonella* (Linnaeus)

Common name of host/prey: codling moth

Species Released: *Trichogrammatoides annulata*

Host/Prey Genus, species, author: *Rhyacionia frustrana* (Comstock)

Common name of host/prey: Nantucket pine tip moth

Species Released: *Campoplex frustranae*

### Family of Host/Prey: Zygaenidae

Host/Prey Genus, species, author: *Harrisina brillians* Barnes & McDunnough

Common name of host/prey: western grapeleaf skeletonizer

Species Released: *Ametadoria misella*

*Glyptapanteles harrisinae*

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Order of Host/Prey: Orthoptera

Family of Host/Prey: Gryllotalpidae

Host/Prey Genus, species, author: *Scapteriscus borellii* Giglio-Tos

Common name of host/prey: southern mole cricket

Species Released: *Larra bicolor*

Host/Prey Genus, species, author: *Scapteriscus vicinus* Scudder

Common name of host/prey: tawny mole cricket

Species Released: *Larra bicolor*

Order of Host/Prey: Thysanoptera

Family of Host/Prey: Thripidae

Host/Prey Genus, species, author: *Heliothrips haemorrhoidalis* (Bouché)

Common name of host/prey: greenhouse thrips

Species Released: *Goetheana parvipennis*

Common Name

Genus-species

Order:Family

--	aphids	Homoptera:Aphididae
--	aphids, pecan	Homoptera:Aphididae
--	<i>Crioceris</i> spp.	Coleoptera:Chrysomelidae
--	<i>Pseudaulacaspis prunicola</i>	Homoptera:Diaspididae
alfalfa plant bug	<i>Adelphocoris lineolatus</i>	Heteroptera:Miridae
alfalfa weevil	<i>Hypera postica</i>	Coleoptera:Curculionidae
apple blotch leafminer	<i>Phyllonorycter crataegella</i>	Lepidoptera:Gracillariidae
asparagus beetle	<i>Crioceris asparagi</i>	Coleoptera:Chrysomelidae
avocado brown mite	<i>Oligonychus punicae</i>	Acariformes:Tetranychidae
beet armyworm	<i>Spodoptera exigua</i>	Lepidoptera>Noctuidae
black scale	<i>Saissetia oleae</i>	Homoptera:Coccidae
blue alfalfa aphid	<i>Acyrthosiphon kondoi</i>	Homoptera:Aphididae
boll weevil	<i>Anthonomus grandis</i>	Coleoptera:Curculionidae
brownbanded cockroach	<i>Supella longipalpa</i>	Blattodea:Blattellidae
Caribbean fruit fly	<i>Anastrepha suspensa</i>	Diptera:Tephritidae
carmine spider mite	<i>Tetranychus cinnabarinus</i>	Acariformes:Tetranychidae
carob moth	<i>Ectomyelois ceratoniae</i>	Lepidoptera:Pyralidae
cereal leaf beetle	<i>Oulema melanopus</i>	Coleoptera:Chrysomelidae
citrus red mite	<i>Panonychus citri</i>	Acariformes:Tetranychidae
citrus whitefly	<i>Dialeurodes citri</i>	Homoptera:Aleyrodidae
clover root curculio	<i>Sitona hispidulus</i>	Coleoptera:Curculionidae

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Common Name	Genus-species	Order:Family
codling moth	<i>Cydia pomonella</i>	Lepidoptera:Tortricidae
Colorado potato beetle	<i>Leptinotarsa decemlineata</i>	Coleoptera:Chrysomelidae
corn earworm, bollworm	<i>Helicoverpa zea</i>	Lepidoptera:Noctuidae
diamondback moth	<i>Plutella xylostella</i>	Lepidoptera:Plutellidae
driedfruit beetle	<i>Carpophilus hemipterus</i>	Coleoptera:Nitidulidae
Egyptian alfalfa weevil	<i>Hypera brunniipennis</i>	Coleoptera:Curculionidae
elm leaf beetle	<i>Xanthogaleruca luteola</i>	Coleoptera:Chrysomelidae
euonymus scale	<i>Unaspis euonymi</i>	Homoptera:Diaspididae
fall armyworm	<i>Spodoptera frugiperda</i>	Lepidoptera>Noctuidae
fall webworm	<i>Hyphantria cunea</i>	Lepidoptera:Arctiidae
greenbug	<i>Schizaphis graminum</i>	Homoptera:Aphididae
greenhouse thrips	<i>Heliothrips haemorrhoidalis</i>	Thysanoptera:Thripidae
greenhouse whitefly	<i>Trialeurodes vaporariorum</i>	Homoptera:Aleyrodidae
gypsy moth	<i>Lymantria dispar</i>	Lepidoptera:Lymantriidae
horn fly	<i>Haematobia irritans</i>	Diptera:Muscidae
house fly	<i>Musca domestica</i>	Diptera:Muscidae
ice plant scale	<i>Pulvinaria mesembryanthemi</i>	Homoptera:Coccidae
imported cabbageworm	<i>Pieris rapae</i>	Lepidoptera:Pieridae
Japanese bayberry whitefly	<i>Parabemisia myricae</i>	Homoptera:Aleyrodidae
Japanese beetle	<i>Popillia japonica</i>	Coleoptera:Scarabaeidae
larch casebearer	<i>Coleophora laricella</i>	Lepidoptera:Coleophoridae
large walnut aphid	<i>Callaphis juglandis</i>	Homoptera:Aphididae
leafminer	<i>Liriomyza trifolii</i>	Diptera:Agromyzidae
Mediterranean fruit fly	<i>Ceratitis capitata</i>	Diptera:Tephritidae
melon fly	<i>Dacus cucurbitae</i>	Diptera:Tephritidae
Mexican bean beetle	<i>Epilachna varivestis</i>	Coleoptera:Coccinellidae
Mexican rice borer	<i>Eoreuma loftini</i>	Lepidoptera:Crambidae
Nantucket pine tip moth	<i>Rhyacionia frustrana</i>	Lepidoptera>Tortricidae
navel orangeworm	<i>Amyelois transitella</i>	Lepidoptera:Pyralidae
orange spiny whietfly	<i>Aleurocanthus spiniferus</i>	Homoptera:Aleyrodidae
Oriental fruit fly	<i>Dacus dorsalis</i>	Diptera:Tephritidae
pea aphid	<i>Acyrtosiphon pisum</i>	Homoptera:Aphididae
pear psylla	<i>Cacopsylla pyricola</i>	Homoptera:Psyllidae
pineapple souring beetle	<i>Carpophilus humeralis</i>	Coleoptera:Nitidulidae
pink bollworm	<i>Pectinophora gossypiella</i>	Lepidoptera:Gelechiidae
plant bugs	<i>Lygus spp.</i>	Heteroptera:Miridae
potato leafhopper	<i>Empoasca fabae</i>	Homoptera:Cicadellidae
range caterpillar	<i>Hemileuca oliviae</i>	Lepidoptera:Saturniidae
red pine scale	<i>Matsucoccus resinosae</i>	Homoptera>Margarodidae

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Common Name	Genus-species	Order:Family
southern green stink bug	<i>Nezara viridula</i>	Heteroptera:Pentatomidae
southern mole cricket	<i>Scapteriscus borellii</i>	Orthoptera:Gryllotalpidae
soybean looper	<i>Pseudoplusia includens</i>	Lepidoptera:Noctuidae
spiraling whitefly	<i>Aleurodicus dispersus</i>	Homoptera:Aleyrodidae
spotted asparagus beetle	<i>Crioceris duodecimpunctata</i>	Coleoptera:Chrysomelidae
spotted tentiform leafminer	<i>Phyllonorycter blancardella</i>	Lepidoptera:Gracillariidae
spruce budworm	<i>Choristoneura fumiferana</i>	Lepidoptera:Tortricidae
stable fly	<i>Stomoxyys calcitrans</i>	Diptera:Muscidae
sugarcane delphacid	<i>Perkinsiella saccharicida</i>	Homoptera:Delphacidae
tarnished plant bug	<i>Lygus lineolaris</i>	Heteroptera:Miridae
tawny mole cricket	<i>Scapteriscus vicinus</i>	Orthoptera:Gryllotalpidae
tobacco budworm	<i>Heliothis virescens</i>	Lepidoptera:Noctuidae
tomato pinworm	<i>Keiferia lycopersicella</i>	Lepidoptera:Gelechiidae
twospotted spider mite	<i>Tetranychus urticae</i>	Acariformes:Tetranychidae
vegetable leafminer	<i>Liriomyza sativae</i>	Diptera:Agromyzidae
velvetbean caterpillar	<i>Anticarsia gemmatalis</i>	Lepidoptera>Noctuidae
walnut husk fly	<i>Rhagoletis completa</i>	Diptera:Tephritidae
western grapeleaf skeletonizer	<i>Harrisina brillians</i>	Lepidoptera>Zygaenidae
western tarnished plant bug	<i>Lygus hesperus</i>	Heteroptera:Miridae
woolly whitefly	<i>Aleurothrixus floccosus</i>	Homoptera:Aleyrodidae

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PART B - Target Host Arranged Alphabetically by Class, Order, Family, Genus, Species with Alphabetical List of Introduced Beneficial Species Released Against It; Followed by Summary of Target Hosts Arranged Alphabetically by Common Name

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Class: Liliopsida

Order of Host: Liliales

Family of Host: Pontederiaceae

Host Genus, species, author: *Eichhornia crassipes* (Mart.) Solms

Common name of host: waterhyacinth

Species Released: *Neochetina bruchi*

*Neochetina eichhorniae*

*Sameodes albifutalis*

Class: Magnoliopsida

Order of Host: Asterales

Family of Host: Asteraceae

Host Genus, species, author: *Carduus acanthoides* L.

Common name of host: plumeless thistle

Species Released: *Rhinocyllus conicus*

*Trichosirocalus horridus*

Host Genus, species, author: *Carduus nutans leiophyllus* (Petr.) Stoj. & Stef.

Common name of host: musk/nodding thistle

Species Released: *Rhinocyllus conicus*

*Trichosirocalus horridus*

Host Genus, species, author: *Carduus pycnocephalus* L.

Common name of host: Italian thistle

Species Released: *Rhinocyllus conicus*

Host Genus, species, author: *Centaurea diffusa* Lam.

Common name of host: diffuse knapweed

Species Released: *Sphenoptera jugoslavica*

*Urophora affinis*

*Urophora quadrifasciata*

Host Genus, species, author: *Centaurea maculosa* Lam.

Common name of host: spotted knapweed

Species Released: *Metzneria paucipunctella*

*Urophora affinis*

*Urophora quadrifasciata*

Host Genus, species, author: *Chondrilla juncea* L.

Common name of host: rush skeletonweed

Species Released: *Aceria chondrillae*

[See also Section III, p. 19, for releases of introduced microbial organism against this species]

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Family of Host: Asteraceae (continued)

Host Genus, species, author: *Cirsium arvense* (L.) Scop.

Common name of host: Canada thistle

Species Released: *Hadropontus litura*

*Urophora cardui*

Host Genus, species, author: *Cirsium vulgare* (Savi) Ten.

Common name of host: bull thistle

Species Released: *Urophora stylata*

Host Genus, species, author: *Senecio jacobaea* L.

Common name of host: tansy ragwort

Species Released: *Botanophila seneciella*

*Longitarsus jacobaeae*

*Tyria jacobaeae*

Host Genus, species, author: *Silybum marianum* (L.) Gaertn.

Common name of host: milk thistle

Species Released: *Rhinocyllus conicus*

Order of Host: Caryophyllales

Family of Host: Amaranthaceae

Host Genus, species, author: *Alternanthera philoxeroides* (C. Mart.) Griseb.

Common name of host: alligatorweed

Species Released: *Agasicles hygrophila*

*Amynothrips andersoni*

Host Genus, species, author: *Salsola australis* R. Br.

Common name of host: Russian thistle

Species Released: *Coleophora klimeschiella*

Order of Host: Euphorbiales

Family of Host: Euphorbiaceae

Host Genus, species, author: *Euphorbia cyparissias* L.

Common name of host: cypress spurge

Species Released: *Hyles euphorbiae*

Host Genus, species, author: *Euphorbia esula* L.

Common name of host: leafy spurge

Species Released: *Hyles euphorbiae*

*Oberea erythrocephala*

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Order of Host: Fabales

Family of Host: Fabaceae

Host Genus, species, author: *Cytisus scoparius* (L.) Link

Common name of host: Scotch broom

Species Released: *Apion fuscirostre*

Order of Host: Lamiales

Family of Host: Lamiaceae

Host Genus, species, author: *Salvia aethiopis* L.

Common name of host: Mediterranean sage

Species Released: *Phrydiuchus tau*

Order of Host: Sapindales

Family of Host: Zygophyllaceae

Host Genus, species, author: *Tribulus terrestris* L.

Common name of host: puncturevine

Species Released: *Microlarinus lareynii*

*Microlarinus lypriformis*

*Microlarinus spp.*

Order of Host: Scrophulariales

Family of Host: Scrophulariaceae

Host Genus, species, author: *Linaria dalmatica* (L.) Mill.

Common name of host: Dalmatian toadflax

Species Released: *Calophasia lunula*

Host Genus, species, author: *Linaria vulgaris* Miller

Common name of host: yellow toadflax

Species Released: *Calophasia lunula*

Order of Host: Theales

Family of Host: Clusiaceae

Host Genus, species, author: *Hypericum perforatum* L.

Common name of host: common St. Johnswort

Species Released: *Chrysolina quadrigemina*

*Zeuxidiplosis giardi*

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Followed by Summary of Target Hosts Arranged Alphabetically by Common Name

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Common Name	Genus-species	Order:Family
alligatorweed	<i>Alternanthera philoxeroides</i>	Caryophyllales:Amaranthaceae
bull thistle	<i>Cirsium vulgare</i>	Asterales:Asteraceae
Canada thistle	<i>Cirsium arvense</i>	Asterales:Asteraceae
common St. Johnswort	<i>Hypericum perforatum</i>	Theales:Clusiaceae
cypress spurge	<i>Euphorbia cyparissias</i>	Euphorbiales:Euphorbiaceae
Dalmatian toadflax	<i>Linaria dalmatica</i>	Scrophulariales:Scrophulariaceae
diffuse knapweed	<i>Centaurea diffusa</i>	Asterales:Asteraceae
Italian thistle	<i>Carduus pycnocephalus</i>	Asterales:Asteraceae
leafy spurge	<i>Euphorbia esula</i>	Euphorbiales:Euphorbiaceae
Mediterranean sage	<i>Salvia aethiopis</i>	Lamiales:Lamiaceae
milk thistle	<i>Silybum marianum</i>	Asterales:Asteraceae
musk/nodding thistle	<i>Carduus nutans leiophyllus</i>	Asterales:Asteraceae
plumeless thistle	<i>Carduus acanthoides</i>	Asterales:Asteraceae
puncturevine	<i>Tribulus terrestris</i>	Sapindales:Zygophyllaceae
rush skeletonweed	<i>Chondrilla juncea</i>	Asterales:Asteraceae
Russian thistle	<i>Salsola australis</i>	Caryophyllales:Chenopodiaceae
Scotch broom	<i>Cytisus scoparius</i>	Fabales:Fabaceae
spotted knapweed	<i>Centaurea maculosa</i>	Asterales:Asteraceae
tansy ragwort	<i>Senecio jacobaea</i>	Asterales:Asteraceae
waterhyacinth	<i>Eichhornia crassipes</i>	Liliales:Pontederiaceae
yellow toadflax	<i>Linaria vulgaris</i>	Scrophulariales:Scrophulariaceae

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**SECTION III - LIST OF INTRODUCED MICROBIAL ORGANISMS RELEASED IN U.S. AND TERRITORIES - 1983**

Arranged Alphabetically by Genus-species of Released Organism, State, County

<b>Species Released</b>	<b>Origin</b>					<b>Target Host</b>
<b>Genus</b>	<b>Country, State, Co.</b>	<b>Released -</b>	<b>File Number</b>	<b>(at time of release)</b>		
<b>Species, Subsp.</b>	<b>Facilities</b>	<b>State, County</b>	<b>Releaser Facil., Name</b>	<b>Genus</b>		
<b>Author</b>		<b>No. of Sites</b>	<b>* = Specimens Kept</b>	<b>Species, Subsp.</b>		
<b>Order, Family</b>		<b>Month / SEE NOTES</b>		<b>Author, Common Name</b>		
<i>Paecilomyces</i> <i>lilacinus</i> (Thom) Samson Moniliales	Peru PEIPC	FL Alachua May NOTE: 078	UFG-GCS-83-0001 UFG Dube, B Smart, G C	Meloidogyne incognita (Kofoid & White) Chitwood 1949 southern root-knot nematode		
<i>Puccinia</i> <i>chondrillina</i> Bubak & Sydenham Uredinales Pucciniaceae	WA, Spokane WASU/GLP	WA Klickitat ? e SPORES Jul NOTE: 125	WASU-GLP-83-0003-3 WASU Gorman, B	Chondrilla juncea Linnaeus rush skeletonweed		
	WA, Spokane WASU/GLP	WA Spokane ? e SPORES Jun to Jul NOTE: 125	WASU-GLP-83-0003-1 WASU Piper, G L	SAME		
	WA, Spokane WASU/GLP	WA Stevens ? e SPORES Jul NOTE: 125	WASU-GLP-83-0003-2 WASU Chambreau, D	SAME		
	WA, Spokane WASU/GLP	WA Whitman ? e SPORES Aug NOTE: 125	WASU-GLP-83-0003-4 WASU Piper, G L	SAME		
<i>Oryctes rhinoceros</i> NOV	Western Samoa WS	PW Peleliou I ? e DHA NOTE: 129	PWDEC-HA-83-0001 PWDEC Adelbei, H	<i>Oryctes</i> <i>rhinoceros</i> (Linnaeus) coconut rhinoceros beetle		
Baculoviridae						

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NOTES

078 Inoculum (isolate CIP-1) released on wheat seed, in some plots with the bacterium Pasteuria penetrans (Thorne) Sayre. See Dube, B, and G C Smart, Jour. Nematol. 19: 222-227, 1987.

125 Approximately 8 billion spores were released in the 4 counties (7 billion in Spokane County), teste G L Piper, WASU.

129 Information from I Schreiner, 1989 (Haw. Entomol. Soc. Proc. 29: 57-69), and D M Nafus, GUUG, pers. commun., 1993.

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Arranged Alphabetically by Genus-species of Released Organism, State, County

Species Released Genus Species, Subsp. Author Order, Family	Origin Country, State/Prov, Co Facilities Collector Acronym/ Initials	Released - State, County Total, Stage No. of Sites Month /SEE NOTES	File Number Releaser Acronym, Name * = Specimens Kept	Target (at time of release)
<i>Chalicodoma nigripes</i> (Spinola) Hymenoptera Megachilidae	Egypt EGCU/SER	NV Clark 398 A May	BBSL-83-0002 BBSL Parker, F D	alfalfa
<i>Euoniticellus intermedius</i> (Reiche) Coleoptera Scarabaeidae	USA, CA (ex South Africa) UCDC	TX Brazos 432 A Apr	VTERL-GTF-83-0001-1 VTERL Fincher, G T	cattle dung & horn fly
<i>Onitis alexis</i> Klug Coleoptera Scarabaeidae	USA, CA (ex South Africa) UCDEXT	TX Grimes 1330 A Apr to Sep	VTERL-GTF-83-0001-2 VTERL Fincher, G T	SAME
<i>Onthophagus bonasus</i> (Fabricius) Coleoptera Scarabaeidae	USA, CA (ex South Africa) UCDEXT	TX Brazos 40 A Oct	VTERL-GTF-83-0003-2 VTERL Fincher, G T	SAME
<i>Onthophagus taurus</i> Schreber Coleoptera Scarabaeidae	USA, CA (ex South Africa) UCDEXT	TX Grimes 124 A Apr	VTERL-GTF-83-0003-1 VTERL Fincher, G T	SAME
<i>Onthophagus taurus</i> Schreber Coleoptera Scarabaeidae	Pakistan VTERL	TX Grimes 342 A Apr to Sep	VTERL-GTF-83-0002 VTERL Fincher, G T	SAME
<i>Onthophagus taurus</i> Schreber Coleoptera Scarabaeidae	USA-GA (orig.Europe) VTERL	TX Grimes 440 A Apr	VTERL-GTF-83-0004 VTERL Fincher, G T	SAME

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Arranged Alphabetically by Genus-species of Released Organism, State, County

<b>Species Released</b>	<b>Origin</b>	<b>Released -</b>			<b>File Number</b>	<b>Target</b>
<b>Genus</b>	<b>Country, State/Prov, Co</b>	<b>State, County</b>	<b>Total, Stage</b>	<b>No. of Sites</b>	<b>Releaser Acronym, Name</b>	
<b>Species, Subsp.</b>	<b>Facilities</b>	<b>Month</b>	<b>/SEE NOTES</b>		<b>* = Specimens Kept</b>	
<b>Author</b>	<b>Collector Acronym/</b>					
<b>Order, Family</b>	<b>Initials</b>					
Osmia cornifrons (Radoszkowski) Hymenoptera Megachilidae	MD, Prince Georges BIIL/SWTB	AK South Central 200e A Mar NOTE: 020		1	BIIL-SWTB-83-0016 COMAKGI	fruit & flower trees
	MD, Prince Georges BIIL/SWTB	AR Newton 200e A Jan NOTE: 076		1	BIIL-SWTB-83-0007 AREK Kindberg, E	?apple
	MD, Prince Georges BIIL/SWTB	CA Glenn 200e A Jan NOTE: 076		1	BIIL-SWTB-83-0023 CADC Chapla, D	SAME
	MD, Prince Georges BIIL/SWTB	CT Middlesex 200e A Jan NOTE: 076		1	BIIL-SWTB-83-0026 CTRAJ Jansson, R A	SAME
	MD, Prince Georges BIIL/SWTB	IA Story 200e A Jan		1	BIIL-SWTB-83-0006 IARBW Wilcox, R B	apple
	MD, Prince Georges BIIL/SWTB	ID Bonner 200e A Apr		1	BIIL-SWTB-83-0015 IDLR Rosenvold, L	apple, other fruit
	MD, Prince Georges BIIL/SWTB	IL Du Page 200e A Apr		1	BIIL-SWTB-83-0018 ILRK Kurle, R	SAME
	MD, Prince Georges BIIL/SWTB	IL Stark 200e A Jan NOTE: 076		1	BIIL-SWTB-83-0025 ILDO Owens, D	?apple

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Species Released Genus Species, Subsp. Author Order, Family	Origin Country, State/Prov, Co Facilities Collector Acronym/ Initials	Released - State, County Total, Stage No. of Sites Month /SEE NOTES	File Number Releaser Acronym, Name * = Specimens Kept	Target (at time of release)
Osmia cornifrons (Radoszkowski) Hymenoptera Megachilidae	MD, Prince Georges BIIL/SWTB	IN Porter 200e A Jan NOTE: 076	BIIL-SWTB-83-0012 INEW Winquist, E	?apple
	MD, Prince Georges BIIL/SWTB	KS Crawford 200e A Apr	BIIL-SWTB-82-0057 KSDWH Hight, D W	apple, pear
	MD, Prince Georges BIIL/SWTB	MA Plymouth 200e A Apr	BIIL-SWTB-83-0002 MARJB Bjornson, R J	apple
	MD, Prince Georges BIIL/SWTB	MD Howard 200e A Jan NOTE: 076	BIIL-SWTB-83-0008 MDCMS Stretmater, C M	?apple
	MD, Prince Georges BIIL/SWTB	MD Prince Georges 6800e A Mar	BIIL-SWTB-83-0033 BIIL Batra, S W T	various
	MD, Prince Georges BIIL/SWTB	MI Lewanee 200e A Jan NOTE: 076	BIIL-SWTB-83-0019 MIJA Aument, J	?apple
	MD, Prince Georges BIIL/SWTB	MI Oakland 200e A Apr	BIIL-SWTB-83-0021 MIWHM Mack, W H	magnolia, fruit trees
	MD, Prince Georges BIIL/SWTB	MI Sanilac 200e A Jan	BIIL-SWTB-83-0020 MIHK Kozerski, H	?apple

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<b>Species Released Genus Species, Subsp. Author Order, Family</b>	<b>Origin Country, State/Prov, Co Facilities Collector Acronym/ Initials</b>	<b>Released - State, County Total, Stage No. of Sites Month /SEE NOTES</b>	<b>File Number Releaser Acronym, Name * = Specimens Kept</b>	<b>Target (at time of release)</b>
Osmia cornifrons (Radoszkowski) Hymenoptera Megachilidae	MD, Prince Georges BIIL/SWTB	NY Suffolk 200e A Jan NOTE: 076	BIIL-SWTB-83-0017 NYWAC Cahill, W A	?apple
	MD, Prince Georges BIIL/SWTB	NY Wayne 200e A May	BIIL-SWTB-83-0014 NYDES Sharp, D E	apple
	MD, Prince Georges BIIL/SWTB	OH Franklin 200e A Apr	BIIL-SWTB-83-0005 OHRHA Alexander, R H	cherry (sour), apple
	MD, Prince Georges BIIL/SWTB	OH Morrow 400e A Feb NOTE: 076	BIIL-SWTB-83-0028 OHBH Hicks, B	?apple
	MD, Prince Georges BIIL/SWTB	OH Perry 200e A Jan NOTE: 076	BIIL-SWTB-83-0013 OHWPE Earwood, W P	?apple
	MD, Prince Georges BIIL/SWTB	OR Clackamas 200e A Apr	BIIL-SWTB-83-0010 ORBLP Pope, B L	apple
	MD, Prince Georges BIIL/SWTB	OR Jackson 200e A Jan NOTE: 076	BIIL-SWTB-83-0011 ORG Tiger, G	?apple
	MD, Prince Georges BIIL/SWTB	OR Linn 200e A Jan NOTE: 076	BIIL-SWTB-83-0009 OREXTLC Ross, E V	SAME

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Species Released Genus Species, Subsp. Author Order, Family	Origin Country, State/Prov, Co Facilities Collector Acronym/ Initials	Released - State, County Total, Stage No. of Sites Month /SEE NOTES	File Number Releaser Acronym, Name * = Specimens Kept	Target (at time of release)
Osmia cornifrons (Radoszkowski) Hymenoptera Megachilidae	MD, Prince Georges BIIL/SWTB	OR Malheur 200e A Jan NOTE: 076	BIIL-SWTB-83-0024 ORJS Simpson, J	?apple
	MD, Prince Georges BIIL/SWTB	OR Washington 200e A Jan NOTE: 076	BIIL-SWTB-83-0001 ORDC Collins, D	SAME
	MD, Prince Georges BIIL/SWTB	PA Bucks 200e A Apr	BIIL-SWTB-83-0027 PAEMS Swisher, E M	plum, peach, cherry
	MD, Prince Georges BIIL/SWTB	PA Franklin 200e A Apr	BIIL-SWTB-83-0003 PADLH Hess, D L	apple
	MD, Prince Georges BIIL/SWTB	PA Lawrence 200e A Jan NOTE: 076	BIIL-SWTB-83-0022 PAKC Cowher, K	?apple
	MD, Prince Georges BIIL/SWTB	PA Lebanon 200e A Apr	BIIL-SWTB-83-0004 PADD Piergallini, D	apricot
	MD, Prince Georges BIIL/SWTB	WV Jefferson 400e A Mar	BIIL-SWTB-83-0031 BIIL Batra, S W T	apple
Osmia cornuta Latreille Hymenoptera Megachilidae	Spain SPINIAV/EA	UT Cache 351 A May	BBSL-83-0001 BBSL Torchio, P F	SAME

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NOTES

020 Greenhouse release.

076 Actual release is assumed, but not documented.

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**SECTION V - SPECIES OF INTRODUCED BENEFICIAL ORGANISMS (EXCLUDING PLANTS) RELEASED IN U.S. AND TERRITORIES - 1983**

Arranged Alphabetically by Class, Order, Family, Genus, Species, with Type of Organism and Target Species

**Beneficial Organisms**

**Targets (Common name, Genus, Species)**

**PHYLUM: NEMATODA**

Class: Secernentia

Order: Rhabditida

Family: Steinernematidae

*Steinernema carpocapsae* (Weiser, 1955) PA

*Steinernema feltiae* (Filipjev, 1934) PA

Mediterranean fruit fly, *Ceratitis capitata*  
gypsy moth, *Lymantria dispar*

**PHYLUM: ARTHROPODA**

Class: Arachnida (Acari)

Order: Acariformes

Family: Eriophyidae

*Aceria chondrillae* (Canestrini) WE

rush skeletonweed, *Chondrilla juncea*

Family: Podapolipidae

*Coccipolipus epilachnae* Smiley PA

Mexican bean beetle, *Epilachna varivestis*

Order: Parasitiformes

Family: Phytoseiidae

*Amblyseius limonicus* Garman & McGregor PR

*Amblyseius longispinosus* (Evans) PR

*Amblyseius* sp. PR

*Euseius concordis* (Chant) PR

*Euseius fructiculus* Gonzalez & Schuster PR

citrus red mite, *Panonychus citri*

carmine spider mite, *Tetranychus cinnabarinus*

twospotted spider mite, *Tetranychus urticae*

citrus red mite, *Panonychus citri*

avocado brown mite, *Oligonychus punicae*

citrus red mite, *Panonychus citri*

citrus red mite, *Panonychus citri*

avocado brown mite, *Oligonychus punicae*

citrus red mite, *Panonychus citri*

avocado brown mite, *Oligonychus punicae*

citrus red mite, *Panonychus citri*

avocado brown mite, *Oligonychus punicae*

citrus red mite, *Panonychus citri*

avocado brown mite, *Oligonychus punicae*

citrus red mite, *Panonychus citri*

avocado brown mite, *Oligonychus punicae*

citrus red mite, *Panonychus citri*

*Euseius hibisci* (Chant) PR

*Euseius quetzali* McMurtry, Bad. & Congd. PR

*Euseius scutalis* (Athias-Henriot) PR

*Euseius* sp. nr. *citrifolius* Denmark & Muma PR

*Euseius* sp. nr. *concordis* (Chant) PR

*Euseius stipulatus* (Athias-Henriot) PR

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Arranged Alphabetically by Class, Order, Family, Genus, Species, with Type of Organism and Target Species

**Beneficial Organisms**

**Targets (Common name, Genus, Species)**

Family: Phytoseiidae (continued)  
*Euseius vivax* (Chant and Baker) PR  
*Galendromus annectens* (DeLeon) PR  
*Galendromus occidentalis* (Nesbitt) PR  
*Galendromus porresi* (McMurtry) PR  
*Iphiseius degenerans* (Berlese) PR  
*Neoseiulus californicus* (McGregor) PR  
  
*Phytoseiulus macropilis* (Banks) PR  
*Phytoseiulus persimilis* Athias-Henriot PR  
*Phytoseius hawaiensis* Prasad PR  
  
*Typhlodromips* sp. nr. *tunis* (Athias-Henriot) PR  
*Typhlodromips swirskii* (Athias-Henriot) PR  
*Typhlodromus cornutus* DeLeon PR  
*Typhlodromus rickeri* Chant PR  
  
*Typhlodromus tiliae* Oudemans PR

avocado brown mite, *Oligonychus punicae*  
citrus red mite, *Panonychus citri*  
avocado brown mite, *Oligonychus punicae*  
citrus red mite, *Panonychus citri*  
avocado brown mite, *Oligonychus punicae*  
carmine spider mite, *Tetranychus cinnabarinus*  
avocado brown mite, *Oligonychus punicae*  
citrus red mite, *Panonychus citri*  
avocado brown mite, *Oligonychus punicae*  
avocado brown mite, *Oligonychus punicae*  
carmine spider mite, *Tetranychus cinnabarinus*  
citrus red mite, *Panonychus citri*  
avocado brown mite, *Oligonychus punicae*  
twospotted spider mite, *Tetranychus urticae*  
avocado brown mite, *Oligonychus punicae*  
citrus red mite, *Panonychus citri*  
avocado brown mite, *Oligonychus punicae*  
citrus red mite, *Panonychus citri*  
citrus red mite, *Panonychus citri*  
avocado brown mite, *Oligonychus punicae*  
citrus red mite, *Panonychus citri*  
avocado brown mite, *Oligonychus punicae*  
citrus red mite, *Panonychus citri*

**Class: Insecta**

Order: Coleoptera  
Family: Buprestidae  
*Sphenoptera jugoslavica* Obenberger WE  
  
Family: Cerambycidae  
*Oberea erythrocephala* (Schrink) WE  
  
Family: Chrysomelidae  
*Agasicles hygrophila* Selman & Vogt WE  
*Chrysolina quadrigemina* (Suffrian) WE  
*Longitarsus jacobaeae* (Waterhouse) WE

diffuse knapweed, *Centaurea diffusa*

leafy spurge, *Euphorbia esula*

alligatorweed, *Alternanthera philoxeroides*  
common St. Johnswort, *Hypericum perforatum*  
tansy ragwort, *Senecio jacobaea*

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Beneficial Organisms	Targets (Common name, Genus, Species)
Family: Coccinellidae <i>Coccinella septempunctata</i> Linnaeus PR <i>Delphastus pusillus</i> (LeConte) PR <i>Exochomus flavipes</i> (Thunberg) PR	aphids spiraling whitefly, <i>Aleurodinus dispersus</i> --, <i>Pulvinaria delottoi</i> Gill
<i>Harmonia axyridis</i> (Pallas) PR	ice plant scale, <i>Pulvinaria mesembryanthemi</i> aphids
Hippodamia variegata (Goeze) PR <hyperaspis hottentota="" mulsant="" pr<br="" senegalensis=""></hyperaspis> Lioadalia flavomaculata (DeGeer) PR Menochilus sexmaculatus (Fabricius) PR Nephispis bicolor Gordon PR Nephispis oculata (Blatchley) PR Scymnus sp. PR	aphids, pecan red pine scale, <i>Matsucoccus resinosae</i> greenbug, <i>Schizaphis graminum</i> --, <i>Pulvinaria delottoi</i> Gill greenbug, <i>Schizaphis graminum</i> pear psylla, <i>Cacopsylla pyricola</i> spiraling whitefly, <i>Aleurodinus dispersus</i> spiraling whitefly, <i>Aleurodinus dispersus</i> twospotted spider mite, <i>Tetranychus urticae</i>
Family: Curculionidae <apion (fabricius)="" fuscirostre="" we<br=""></apion> Hadropontus litura (Fabricius) WE Microlarinus lareynii (Jacquelin du Val) WE Microlarinus lypriformis (Wollaston) WE Microlarinus spp. WE Neochetina bruchi Hustache WE Neochetina eichhorniae Warner WE Phrydiuchus tau Warner WE Rhinocyllus conicus (Froelich) WE Trichosirocalus horridus (Panzer) WE	Scotch broom, <i>Cytisus scoparius</i> Canada thistle, <i>Cirsium arvense</i> puncture vine, <i>Tribulus terrestris</i> puncture vine, <i>Tribulus terrestris</i> puncture vine, <i>Tribulus terrestris</i> waterhyacinth, <i>Eichhornia crassipes</i> waterhyacinth, <i>Eichhornia crassipes</i> Mediterranean sage, <i>Salvia aethiopis</i> milk thistle, <i>Silybum marianum</i> musk/nodding thistle, <i>Carduus nutans leiophyllus</i>
Family: Histeridae Atholus maindronii (Lewis) PR	horn fly, <i>Haematobia irritans</i> house fly, <i>Musca domestica</i>
Family: Nitidulidae <bocephalus ?nipponicus="" endrödy-younga="" pr<="" td=""><td data-bbox="956 1154 1443 1177">euonymus scale, <i>Unaspis euonymi</i></td></bocephalus>	euonymus scale, <i>Unaspis euonymi</i>
Family: Scarabaeidae <oniticellus (reiche)="" intermedius="" ot<br=""></oniticellus> Onitis alexis Klug OT Onthophagus bonasus (Fabricius) OT Onthophagus taurus Schreber OT	see Section IV see Section IV see Section IV see Section IV

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Beneficial Organisms	Targets (Common name, Genus, Species)
Order: Diptera Family: Anthomyiidae <i>Botanophila seneciella</i> (Meade) WE	tansy ragwort, <i>Senecio jacobaea</i>
Family: Cecidomyiidae <i>Zeuxidiplosis giardi</i> (Kieffer) WE	common St. Johnswort, <i>Hypericum perforatum</i>
Family: Tachinidae <i>Ametadoria misella</i> (Wulp) PA <i>Compsilura concinnata</i> (Meigen) PA  <i>Erynniopsis antennata</i> (Rondani) PA <i>Istocheta aldrichi</i> (Mesnil) PA <i>Meigenia mutabilis</i> (Fallén) PA  <i>Palexorista laxa</i> (Curran) PA <i>Trichopoda pilipes</i> (Fabricius) PA	western grapeleaf skeletonizer, <i>Harrisina brillians</i> gypsy moth, <i>Lymantria dispar</i> potential alternate lepidopterous hosts elm leaf beetle, <i>Xanthogaleruca luteola</i> Japanese beetle, <i>Popillia japonica</i> asparagus beetle, <i>Crioceris asparagi</i> --, <i>Crioceris</i> spp. tobacco budworm, <i>Heliothis virescens</i> southern green stinkbug, <i>Nezara viridula</i>
Family: Tephritidae <i>Urophora affinis</i> (Frauenfeld) WE  <i>Urophora cardui</i> (Linnaeus) WE <i>Urophora quadrifasciata</i> (Meigen) WE  <i>Urophora stylata</i> (Fabricius) WE	diffuse knapweed, <i>Centaurea diffusa</i> spotted knapweed, <i>Centaurea maculosa</i> Canada thistle, <i>Cirsium arvense</i> diffuse knapweed, <i>Centaurea diffusa</i> spotted knapweed, <i>Centaurea maculosa</i> bull thistle, <i>Cirsium vulgare</i>
Order: Heteroptera Family: Anthocoridae <i>Anthocoris nemorum</i> (Linnaeus) PR  Family: Miridae <i>Tytthus mundulus</i> (Breddin) PR  Family: Pentatomidae <i>Oplomus ebulinus</i> (Herrich-Schäffer) PR	pear psylla, <i>Cacopsylla pyricola</i>  sugarcane delphacid, <i>Perkinsiella saccharicida</i>  Mexican bean beetle, <i>Epilachna varivestis</i>
Order: Hymenoptera Family: Aphelinidae <i>Coccophagus rusti</i> Compere PA <i>Encarsia ?haitiensis</i> Dozier PA <i>Encarsia citrina</i> (Crawford) PA	black scale, <i>Saissetia oleae</i> spiraling whitefly, <i>Aleurodicus dispersus</i> euonymus scale, <i>Unaspis euonymi</i>

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Beneficial Organisms	Targets (Common name, Genus, Species)
<b>Family: Aphelinidae (continued)</b> <i>Encarsia fasciata</i> (Malenotti) PA <i>Encarsia formosa</i> Gahan PA <i>Encarsia lahorensis</i> (Howard) PA <i>Encarsia n. sp.</i> PA <i>Encarsia n. sp. I</i> Förster PA <i>Encarsia smithi</i> (Silvestri) PA <i>Encarsia sp.</i> PA <i>Eretmocerus n. sp.</i> Haldeman PA <i>Eretmocerus sp.</i> PA <i>Prococcophagus saissetiae</i> Annecke & Mynhardt PA <i>Pteroptrix n. sp.</i> PA	euonymus scale, <i>Unaspis euonymi</i> greenhouse whitefly, <i>Trialeurodes vaporariorum</i> citrus whitefly, <i>Dialeurodes citri</i> Japanese bayberry whitefly, <i>Parabemisia myricae</i> Japanese bayberry whitefly, <i>Parabemisia myricae</i> orange spiny whitefly, <i>Aleurocanthus spiniferus</i> spiraling whitefly, <i>Aleurodicus dispersus</i> Japanese bayberry whitefly, <i>Parabemisia myricae</i> woolly whitefly, <i>Aleurothrixus floccosus</i> black scale, <i>Saissetia oleae</i> euonymus scale, <i>Unaspis euonymi</i>
<b>Family: Aphidiidae</b> <i>Aphidius colemani</i> Viereck PA <i>Aphidius eadyi</i> Starý PA <i>Aphidius ervi</i> Haliday PA  <i>Aphidius smithi</i> Sharma & Subba Rao PA <i>Ephedrus plagiator</i> (Nees) PA  <i>Praon callaphis</i> Mackauer & Sullivan PA <i>Trioxytus tenuicaudus</i> Starý PA	greenbug, <i>Schizaphis graminum</i> blue alfalfa aphid, <i>Acyrtosiphon kondoi</i> blue alfalfa aphid, <i>Acyrtosiphon kondoi</i> pea aphid, <i>Acyrtosiphon pisum</i> blue alfalfa aphid, <i>Acyrtosiphon kondoi</i> greenbug, <i>Schizaphis graminum</i> pea aphid, <i>Acyrtosiphon pisum</i> large walnut aphid, <i>Callaphis juglandis</i> --, <i>Tinocallis platani</i>
<b>Family: Bethylidae</b> <i>Goniozus legneri</i> Gordh PA	carab moth, <i>Ectomyelois ceratoniae</i> navel orangeworm, <i>Amyelois transitella</i> pink bollworm, <i>Pectinophora gossypiella</i>
<b>Family: Braconidae</b> <i>Aleiodes lymantriae</i> (Watanabe) PA  <i>Allorhogas pyralophagus</i> Marsh PA <i>Biosteres sublaevis</i> Wharton PA <i>Cotesia melanoscelus</i> (Ratzeburg) PA <i>Cotesia plutellae</i> (Kurdjumov) PA <i>Cotesia rubecula</i> (Marshall) PA <i>Cotesia ruficrus</i> (Haliday) PA <i>Diachasmimorpha longicaudatas</i> (Ashmead) PA <i>Diachasmimorpha tryoni</i> (Cameron) PA <i>Glyptapanteles flavicoxis</i> (Marsh) PA	fall webworm, <i>Hyphantria cunea</i> gypsy moth, <i>Lymantria dispar</i> Mexican rice borer, <i>Eoreuma loftini</i> walnut husk fly, <i>Rhagoletis completa</i> gypsy moth, <i>Lymantria dispar</i> diamondback moth, <i>Plutella xylostella</i> imported cabbageworm, <i>Pieris rapae</i> soybean looper, <i>Pseudoplusia includens</i> Mediterranean fruit fly, <i>Ceratitis capitata</i> Caribbean fruit fly, <i>Anastrepha suspensa</i> gypsy moth, <i>Lymantria dispar</i>

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Beneficial Organisms	Targets (Common name, Genus, Species)
Family: Braconidae (continued)	
<i>Glyptapanteles harrisinae</i> (Muesebeck) PA	western grapeleaf skeletonizer, <i>Harrisina brillians</i>
<i>Glyptapanteles indiensis</i> (Marsh) PA	gypsy moth, <i>Lymantria dispar</i>
<i>Habrobracon gelechiae</i> (Ashmead) PA	pink bollworm, <i>Pectinophora gossypiella</i>
<i>Heterospilus annulatus</i> Marsh PA	boll weevil, <i>Anthonomus grandis</i>
<i>Heterospilus megalopus</i> Marsh PA	boll weevil, <i>Anthonomus grandis</i>
<i>Meteorus pulchricornis</i> (Wesmael) PA	gypsy moth, <i>Lymantria dispar</i>
<i>Microctonus aethiopoides</i> Loan PA	potential alternate lepidopterous hosts
<i>Microctonus colesi</i> Drea PA	alfalfa weevil, <i>Hypera postica</i>
<i>Microplitis demolitor</i> (Wilkinson) PA	clover root curculio, <i>Sitona hispidulus</i>
<i>Microplitis rufiventris</i> Kukujev PA	Egyptian alfalfa weevil, <i>Hypera brunnipennis</i>
<i>Opius dissitus</i> Muesebeck PA	alfalfa weevil, <i>Hypera postica</i>
<i>Peristenus adelphocoridis</i> Loan PA	corn earworm, bollworm, <i>Helicoverpa zea</i>
<i>Peristenus digoneutis</i> Loan PA	tobacco budworm, <i>Heliothis virescens</i>
<i>Peristenus stygicus</i> Loan PA	fall armyworm, <i>Spodoptera frugiperda</i>
<i>Pholetesor pedias</i> (Nixon) PA	leafminer, <i>Liriomyza trifolii</i>
<i>Psyllalia concolor</i> (Szépligeti) PA	vegetable leafminer, <i>Liriomyza sativae</i>
<i>Psyllalia incisi</i> (Silvestri) PA	alfalfa plant bug, <i>Adelphocoris lineolatus</i>
<i>Rhaconotus roslinensis</i> Lal PA	alfalfa plant bug, <i>Adelphocoris lineolatus</i>
<i>Zelomorpha</i> sp. PA	tarnished plant bug, <i>Lygus lineolaris</i>
Family: Chalcididae	alfalfa plant bug, <i>Adelphocoris lineolatus</i>
<i>Brachymeria intermedia</i> (Nees) PA	plant bugs, <i>Lygus spp.</i>
<i>Brachymeria lasus</i> (Walker) PA	tarnished plant bug, <i>Lygus lineolaris</i>
Family: Diapriidae	western tarnished plant bug, <i>Lygus hesperus</i>
<i>Trichopria stomoxydis</i> Huggert PA	spotted tentiform leafminer, <i>Phyllonorycter blancaudella</i>
	Caribbean fruit fly, <i>Anastrepha suspensa</i>
	Caribbean fruit fly, <i>Anastrepha suspensa</i>
	melon fly, <i>Dacus cucurbitae</i>
	Mexican rice borer, <i>Eoreuma loftini</i>
	velvetbean caterpillar, <i>Anticarsia gemmatalis</i>
	fall webworm, <i>Hyphantria cunea</i>
	range caterpillar, <i>Hemileuca oliviae</i>
	fall webworm, <i>Hyphantria cunea</i>
	range caterpillar, <i>Hemileuca oliviae</i>
	stable fly, <i>Stomoxys calcitrans</i>

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Beneficial Organisms	Targets (Common name, Genus, Species)
Family: Encyrtidae <i>Aloencyrtus saissetiae</i> (Compere) PA <i>Arrhenophagus albifibiae</i> Girault PA <i>Cerchysiella utilis</i> (Noyes) PA  <i>Comperia merceti</i> (Compere) PA <i>Encyrtus saliens</i> Prinsloo & Annecke PA <i>Metaphycus funicularis</i> Annecke PA  <i>Metaphycus stramineus</i> (Compere) PA  <i>Prionomitus mitratus</i> (Dalman) PA	black scale, <i>Saissetia oleae</i> --, <i>Pseudaulacaspis prunicola</i> driedfruit beetle, <i>Carpophilus hemipterus</i> pineapple souring beetle, <i>Carpophilus humeralis</i> brownbanded cockroach, <i>Supella longipalpa</i> ice plant scale, <i>Pulvinaria mesembryanthemi</i> ice plant scale, <i>Pulvinaria mesembryanthemi</i> --, <i>Pulvinaria delottoi</i> ice plant scale, <i>Pulvinaria mesembryanthemi</i> --, <i>Pulvinaria delottoi</i> pear psylla, <i>Cacopsylla pyricola</i>
Family: Eucoilidae <i>Ganaspidium utilis</i> Beardsley PA	leafminer, <i>Liriomyza trifolii</i> vegetable leafminer, <i>Liriomyza sativae</i>
Family: Eulophidae <i>Chrysocharis caribea</i> Bouček PA  <i>Chrysocharis oscinidis</i> Ashmead PA  <i>Chrysonotomyia punctiventris</i> (Crawford) PA  <i>Diglyphus begini</i> (Ashmead) PA <i>Edovum puttleri</i> Grissell PA <i>Goetheana parvipennis</i> (Gahan) PA <i>Oomyzus gallerucae</i> (Fonscolombe) PA <i>Oomyzus incertus</i> (Ratzeburg) PA <i>Pediobius foveolatus</i> (Crawford) PA <i>Pediobius furvus</i> (Gahan) PA <i>Tetrastichus coeruleus</i> (Nees) PA <i>Tetrastichus crioceridis</i> Graham PA  <i>Tetrastichus julis</i> (Walker) PA	leafminer, <i>Liriomyza trifolii sativae</i> vegetable leafminer, <i>Liriomyza</i> leafminer, <i>Liriomyza trifolii</i> vegetable leafminer, <i>Liriomyza sativae</i> leafminer, <i>Liriomyza trifolii</i> vegetable leafminer, <i>Liriomyza sativae</i> leafminer, <i>Liriomyza trifolii</i> Colorado potato beetle, <i>Leptinotarsa decemlineata</i> greenhouse thrips, <i>Heliothrips haemorrhoidalis</i> elm leaf beetle, <i>Xanthogaleruca luteola</i> alfalfa weevil, <i>Hypera postica</i> Mexican bean beetle, <i>Epilachna varivestis</i> Mexican riceborer, <i>Eoreuma loftini</i> asparagus beetle, <i>Crioceris asparagi</i> asparagus beetle, <i>Crioceris asparagi</i> spotted asparagus beetle, <i>Crioceris duodecimpunctata</i> --, <i>Crioceris spp.</i> cereal leaf beetle, <i>Oulema melanopus</i>
Family: Eupelmidae <i>Anastatus disparis</i> Ruschka PA	gypsy moth, <i>Lymantria dispar</i>

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**Beneficial Organisms**

**Targets (Common name, Genus, Species)**

Family: Ichneumonidae

Bathyplectes anurus (Thomson) PA  
 Bathyplectes curculionis (Thomson) PA  
 Bathyplectes stenostigma (Thomson) PA  
 Campoplex frustranae Cushman PA  
 Campoplex n. sp. PA  
 Diadegma laricinellum (Strobl) PA  
 Diadromus collaris (Gravenhorst) PA  
 Diaparsis temporalis Horstmann PA  
 Hyposoter ebeninus (Gravenhorst) PA  
 Hyposoter lymantiae Cushman PA  
 Lemophagus crioceritor Aubert PA  
 Lemophagus curtus Townes PA  
 Microcharops anticarsiae Gupta PA  
 Pimpla disparis Viereck PA  
 Scambus simulator Gupta & Tikar PA

alfalfa weevil, Hypera postica  
 Egyptian alfalfa weevil, Hypera brunniipennis  
 alfalfa weevil, Hypera postica  
 alfalfa weevil, Hypera postica  
 Nantucket pine tip moth, Rhyacionia frustrana  
 tomato pinworm, Keiferia lycopersicella  
 larch casebearer, Coleophora laricella  
 diamondback moth, Plutella xylostella  
 cereal leaf beetle, Oulema melanopus  
 imported cabbageworm, Pieris rapae  
 gypsy moth, Lymantria dispar  
 asparagus beetle, Crioceris asparagi  
 cereal leaf beetle, Oulema melanopus  
 velvetbean caterpillar, Anticarsia gemmatalis  
 fall webworm, Hyphantria cunea  
 range caterpillar, Hemileuca oliviae  
 navel orangeworm, Amyelois transitella

Family: Megachilidae

Chalicodoma nigripes (Spinola) PO  
 Osmia cornifrons (Radoszkowski) PO  
 Osmia cornuta Latreille PO

see Section IV  
 see Section IV  
 see Section IV

Family: Mymaridae

Anagrus empoascae Dozier PA  
 Anagrus flaveolus Waterhouse PA  
 Anagrus giraulti Crawford PA  
 Arescon enocki (Subba Rao & Kaur) PA  
 Stethynium empoascae Subba Rao PA

potato leafhopper, Empoasca fabae  
 potato leafhopper, Empoasca fabae  
 potato leafhopper, Empoasca fabae  
 potato leafhopper, Empoasca fabae  
 alfalfa weevil, Hypera postica  
 potato leafhopper, Empoasca fabae

Family: Pteromalidae

Catolaccus grandis (Burks) PA  
 Dibrachoides dynastes (Förster) PA  
 Halticoptera circulus (Walker) PA  
 Muscidifurax zaraptor Kogan & Legner PA

boll weevil, Anthonomis grandis  
 alfalfa weevil, Hypera postica  
 leafminer, Liriomyza trifolii  
 vegetable leafminer, Liriomyza sativae  
 house fly, Musca domestica

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Beneficial Organisms	Targets (Common name, Genus, Species)
Family: Scelionidae Telenomus chloropus Thomson PA Telenomus solitus Johnson PA Trissolcus basalis (Wollaston) PA	southern green stinkbug, <i>Nezara viridula</i> beet armyworm, <i>Spodoptera exigua</i> southern green stinkbug, <i>Nezara viridula</i>
Family: Sphecidae Larra bicolor Fabricius PA	southern mole cricket, <i>Scapteriscus borellii</i> tawny mole cricket, <i>Scapteriscus vicinus</i>
Family: Trichogrammatidae Trichogramma pretiosum Riley PA  Trichogrammatoidea annulata DeSantis PA	corn earworm, bollworm, <i>Helicoverpa zea</i> tobacco budworm, <i>Heliothis virescens</i> codling moth, <i>Cydia pomonella</i> navel orangeworm, <i>Amyelois transitella</i>
Family: Vespidae Ancistrocerus catskill (Saussure) PR Ancistrocerus tuberculocephalus (Saussure) PR Euodynerus hidalgo (Saussure) PR Euodynerus leucomelas (Saussure) PR	spruce budworm, <i>Choristoneura fumiferana</i> spruce budworm, <i>Choristoneura fumiferana</i> spruce budworm, <i>Choristoneura fumiferana</i> spruce budworm, <i>Choristoneura fumiferana</i>
Order: Lepidoptera Family: Arctiidae Tyria jacobaeae (Linnaeus) WE	tansy ragwort, <i>Senecio jacobaea</i>
Family: Coleophoridae Coleophora klimeschiella Toll WE	Russian thistle, <i>Salsola australis</i>
Family: Crambidae Sameodes albipunctalis (Warren) WE	waterhyacinth, <i>Eichhornia crassipes</i>
Family: Gelechiidae Metzneria paucipunctella Zeller WE	spotted knapweed, <i>Centaurea maculosa</i>
Family: Noctuidae Calophasia lunula (Hufnagel) WE	Dalmatian toadflax, <i>Linaria dalmatica</i> yellow toadflax, <i>Linaria vulgaris</i>
Family: Sphingidae Hyles euphorbiae (Linnaeus) WE	leafy spurge, <i>Euphorbia esula</i> cypress spurge, <i>Euphorbia cyparissias</i>

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## SECTION V - SPECIES OF INTRODUCED BENEFICIAL ORGANISMS (EXCLUDING PLANTS) RELEASED IN U.S. AND TERRITORIES - 1983

Arranged Alphabetically by Class, Order, Family, Genus, Species, with Type of Organism and Target Species

Beneficial Organisms	Targets (Common name, Genus, Species)
Order: Neuroptera Family: Chrysopidae <i>Chrysoperla carnea</i> (Stephens) PR	pear psylla, <i>Cacopsylla pyricola</i>
Order: Thysanoptera Family: Phlaeothripidae <i>Amynothrips andersoni</i> O'Neill WE	alligatorweed, <i>Alternanthera philoxeroides</i>
Family: Thripidae <i>Scolothrips sexmaculatus</i> (Pergande) PR	carmine spider mite, <i>Tetranychus cinnabarinus</i>

## MICROBIAL ORGANISMS

## Insect Viruses

Family: Baculoviridae  
*Oryctes rhinoceros* NOV

see Section III

## Fungi

## Class: Basidomycetes

Order: Uredinales  
Family: Pucciniaceae  
*Puccinia chondrillina* Bubak & Sydenham MI

see Section III

## Class: Hyphomycetes

Order: Moniliales  
Family:  
*Paecilomyces lilacinus* (Thom) Samson MI

see Section III

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Each County Followed by List of Released Organisms Alphabetized by Genus-species, with Type of Organism

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**State: AK**

County: South Central

Genus-species: *Osmia cornifrons* PO

**State: AL**

County:

Genus-species: *Bathyplectes curculionis* PA  
*Microctonus colesi* PA

County: Baldwin

Genus-species: *Agasicles hygrophila* WE

County: Bullock

Genus-species: *Bathyplectes anurus* PA  
*Dibrachoides dynastes* PA  
*Microctonus aethiopoides* PA  
*Microctonus colesi* PA

County: Coffee

Genus-species: *Bathyplectes anurus* PA  
*Encarsia lahorensis* PA  
*Microctonus aethiopoides* PA  
*Microctonus colesi* PA

County: Conecuh

Genus-species: *Encarsia lahorensis* PA

County: Covington

Genus-species: *Bathyplectes anurus* PA  
*Dibrachoides dynastes* PA  
*Microctonus aethiopoides* PA  
*Microctonus colesi* PA

County: Dallas

Genus-species: *Bathyplectes anurus* PA  
*Dibrachoides dynastes* PA  
*Microctonus aethiopoides* PA  
*Microctonus colesi* PA

**State: AL (continued)**

County: Elmore

Genus-species: *Bathyplectes anurus* PA  
*Dibrachoides dynastes* PA  
*Microctonus aethiopoides* PA  
*Microctonus colesi* PA  
*Oomyzus incertus* PA

County: Etowah

Genus-species: *Bathyplectes anurus* PA

County: Fayette

Genus-species: *Bathyplectes anurus* PA

County: Hale

Genus-species: *Bathyplectes anurus* PA  
*Dibrachoides dynastes* PA

County: Houston

Genus-species: *Bathyplectes anurus* PA  
*Dibrachoides dynastes* PA  
*Encarsia lahorensis* PA  
*Microctonus aethiopoides* PA  
*Microctonus colesi* PA  
*Oomyzus incertus* PA

County: Jackson

Genus-species: *Agasicles hygrophila* WE  
*Bathyplectes anurus* PA  
*Dibrachoides dynastes* PA  
*Microctonus aethiopoides* PA  
*Microctonus colesi* PA

County: Lauderdale

Genus-species: *Agasicles hygrophila* WE

County: Lawrence

Genus-species: *Bathyplectes anurus* PA  
*Dibrachoides dynastes* PA  
*Microctonus aethiopoides* PA  
*Microctonus colesi* PA

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---

**State: AL (continued)**

County: Marengo

Genus-species: *Bathyplectes anurus* PA  
*Dibrachoides dynastes* PA

County: Marshall

Genus-species: *Bathyplectes anurus* PA

County: Mobile

Genus-species: *Agasicles hygrophila* WE

County: Montgomery

Genus-species: *Bathyplectes anurus* PA  
*Encarsia lahorensis* PA  
*Microctonus aethiopoides* PA  
*Microctonus colesi* PA

County: Morgan

Genus-species: *Bathyplectes anurus* PA  
*Dibrachoides dynastes* PA  
*Microctonus aethiopoides* PA  
*Microctonus colesi* PA  
*Oomyzus incertus* PA

County: Pike

Genus-species: *Bathyplectes anurus* PA  
*Dibrachoides dynastes* PA  
*Microctonus aethiopoides* PA  
*Microctonus colesi* PA

County: St Clair

Genus-species: *Bathyplectes anurus* PA  
*Dibrachoides dynastes* PA  
*Microctonus aethiopoides* PA

County: Talladega

Genus-species: *Bathyplectes anurus* PA  
*Microctonus aethiopoides* PA

**State: AL (continued)**

County: Tuscaloosa

Genus-species: *Bathyplectes anurus* PA  
*Dibrachoides dynastes* PA  
*Microctonus aethiopoides* PA

**State: AR**

County:

Genus-species: *Bathyplectes curculionis* PA  
*Microctonus colesi* PA

County: Ashley

Genus-species: *Encarsia lahorensis* PA

County: Bradley

Genus-species: *Encarsia lahorensis* PA

County: Calhoun

Genus-species: *Encarsia lahorensis* PA

County: Chicot

Genus-species: *Encarsia lahorensis* PA

County: Clark

Genus-species: *Encarsia lahorensis* PA

County: Cross

Genus-species: *Bathyplectes anurus* PA

County: Desha

Genus-species: *Bathyplectes anurus* PA

County: Howard

Genus-species: *Encarsia lahorensis* PA

County: Independence

Genus-species: *Bathyplectes anurus* PA

County: Jefferson

Genus-species: *Encarsia lahorensis* PA

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---

**State: AR (continued)**

County: Lafayette

Genus-species: *Encarsia lahorensis* PA

County: Marion

Genus-species: *Bathyplectes anurus* PA

County: Miller

Genus-species: *Bathyplectes anurus* PA

*Dibrachoides dynastes* PA

*Microctonus aethiopoides* PA

*Microctonus colesi* PA

*Oomyzus incertus* PA

County: Newton

Genus-species: *Bathyplectes anurus* PA

*Osmia cornifrons* PO

County: Ouachita

Genus-species: *Encarsia lahorensis* PA

County: Phillips

Genus-species: *Bathyplectes anurus* PA

County: Pulaski

Genus-species: *Bathyplectes anurus* PA

County: Washington

Genus-species: *Bathyplectes anurus* PA

*Dibrachoides dynastes* PA

*Oomyzus incertus* PA

**State: AZ**

County: Cochise

Genus-species: *Peristenus stygicus* PA

County: Pima

Genus-species: *Peristenus stygicus* PA

**State: CA**

County: Alameda

Genus-species: *Comperia merceti* PA

*Encyrtus saliens* PA

*Oomyzus gallerucae* PA

*Praon callaphis* PA

County: Butte

Genus-species: *Goniozus legneri* PA

*Oomyzus gallerucae* PA

*Scambus simulator* PA

*Trichogrammaoidea annulata* PA

County: Colusa

Genus-species: *Bathyplectes anurus* PA

*Microctonus aethiopoides* PA

County: Contra Costa

Genus-species: *Encyrtus saliens* PA

County: Del Norte

Genus-species: *Urophora cardui* WE

County: Fresno

Genus-species: *Ametadoria misella* PA

*Aphidius ervi* PA

*Bathyplectes anurus* PA

*Glyptapanteles harrisinae* PA

*Microctonus aethiopoides* PA

*Oomyzus gallerucae* PA

County: Glenn

Genus-species: *Bathyplectes anurus* PA

*Microctonus aethiopoides* PA

*Osmia cornifrons* PO

County: Humboldt

Genus-species: *Urophora cardui* WE

County: Imperial

Genus-species: *Goniozus legneri* PA

*Habrobracon gelechiae* PA

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---

**State: CA (continued)**

County: Inyo

Genus-species: *Oomyzus gallerucae* PA

County: Kings

Genus-species: *Aphidius ervi* PA

County: Lassen

Genus-species: *Bathyplectes stenostigma* PA

County: Los Angeles

Genus-species: *Campoplex frustranae* PA

*Exochomus flavipes* PR

*Hyperaspis senegalensis hottentota* PR

*Metaphycus funicularis* PA

*Metaphycus stramineus* PA

County: Marin

Genus-species: *Rhinocyllus conicus* WE

County: Mendocino

Genus-species: *Urophora cardui* WE

County: Merced

Genus-species: *Ametadoria misella* PA

*Glyptapanteles harrisinae* PA

*Oomyzus gallerucae* PA

County: Modoc

Genus-species: *Aphidius ervi* PA

*Erynniopsis antennata* PA

*Microlarinus lareynii* WE

County: Monterey

Genus-species: *Aphidius ervi* PA

*Exochomus flavipes* PR

*Hyperaspis senegalensis hottentota* PR

*Metaphycus funicularis* PA

*Metaphycus stramineus* PA

**State: CA (continued)**

County: Orange

Genus-species: *Encarsia n. sp.* PA

*Rhinocyllus conicus* WE

*Telenomus solitus* PA

County: Placer

Genus-species: *Ametadoria misella* PA

*Coleophora klimeschiella* WE

*Glyptapanteles harrisinae* PA

County: Riverside

Genus-species: *Amblyseius limonicus* PR

*Aphidius eadyi* PA

*Aphidius ervi* PA

*Aphidius smithi* PA

*Campoplex frustranae* PA

*Coleophora klimeschiella* WE

*Euseius concordis* PR

*Euseius fructicolus* PR

*Euseius hibisci* PR

*Euseius quetzali* PR

*Euseius scutalis* PR

*Euseius sp. nr. citrifolius* PR

*Euseius sp. nr. concordis* PR

*Euseius stipulatus* PR

*Euseius vivax* PR

*Galendromus annectens* PR

*Galendromus porresi* PR

*Goniozus legneri* PA

*Neoseiulus californicus* PR

*Oomyzus gallerucae* PA

*Phytoseius hawaiiensis* PR

*Rhinocyllus conicus* WE

*Typhlodromips sp. nr. tunis* PR

*Typhlodromips swirskii* PR

*Typhlodromus cornus* PR

*Typhlodromus rickeri* PR

*Typhlodromus tiliae* PR

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---

**State: CA (continued)**

County: Sacramento

Genus-species: *Ametadoria misella* PA  
*Coleophora klimeschiella* WE  
*Exochomus flavipes* PR  
*Glyptapanteles harrisinae* PA  
*Hyperaspis senegalensis hottentota* PR  
*Metaphycus funicularis* PA  
*Metaphycus stramineus* PA  
*Oomyzus gallerucae* PA

County: San Bernardino

Genus-species: *Oomyzus gallerucae* PA  
*Rhinocyllus conicus* WE

County: San Diego

Genus-species: *Atholus maindronii* PR  
*Euseius fructicolus* PR  
*Euseius quetzali* PR  
*Euseius scutalis* PR  
*Euseius* sp. nr. *citrifolius* PR  
*Euseius* sp. nr. *concordis* PR  
*Euseius stipulatus* PR  
*Euseius vivax* PR  
*Exochomus flavipes* PR  
*Galendromus annectens* PR  
*Galendromus occidentalis* PR  
*Galendromus porresi* PR  
*Goetheana parvipennis* PA  
*Goniozus legneri* PA  
*Hyperaspis senegalensis hottentota* PR  
*Iphiseius degenerans* PR  
*Metaphycus funicularis* PA  
*Metaphycus stramineus* PA  
*Neoseiulus californicus* PR  
*Phytoseiulus macropilis* PR  
*Phytoseiulus hawaiiensis* PR  
*Typhlodromips* sp. nr. *tunis* PR  
*Typhlodromus rickeri* PR  
*Typhlodromus tiliae* PR

**State: CA (continued)**

County: San Joaquin

Genus-species: *Goniozus legneri* PA  
*Neochetina bruchi* WE  
*Neochetina eichhorniae* WE  
*Oomyzus gallerucae* PA  
*Sameodes albiginatus* WE  
*Trichogrammatoidea annulata* PA

County: San Luis Obispo

Genus-species: *Atholus maindronii* PR  
*Biosteres sublaevis* PA  
*Exochomus flavipes* PR  
*Goniozus legneri* PA  
*Hyperaspis senegalensis hottentota* PR  
*Metaphycus funicularis* PA  
*Metaphycus stramineus* PA  
*Scambus simulator* PA

County: Santa Barbara

Genus-species: *Eretmocerus* n. sp. Haldeman PA  
*Exochomus flavipes* PR  
*Goetheana parvipennis* PA  
*Hyperaspis senegalensis hottentota* PR  
*Metaphycus funicularis* PA  
*Metaphycus stramineus* PA

County: Santa Clara

Genus-species: *Exochomus flavipes* PR

County: Shasta

Genus-species: *Ametadoria misella* PA  
*Glyptapanteles harrisinae* PA

County: Siskiyou

Genus-species: *Aphidius ervi* PA  
*Microlarinus lareynii* WE

County: Solano

Genus-species: *Oomyzus gallerucae* PA  
*Trichogrammatoidea annulata* PA

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**State: CA (continued)**

County: Stanislaus

Genus-species: *Oomyzus gallerucae* PA

County: Tulare

Genus-species: *Aloencyrtus saissetiae* PA

*Aphidius ervi* PA

*Atholus maindronii* PR

*Coccophagus rusti* PA

*Prococcophagus saissetiae* PA

County: Tuolumne

Genus-species: *Ametadoria misella* PA

*Glyptapanteles harrisinae* PA

County: Ventura

Genus-species: *Ametadoria misella* PA

*Atholus maindronii* PR

*Encarsia n. sp.* PA

*Encarsia n. sp. I* Foerster PA

*Eretmocerus n. sp.* Haldeman PA

*Exochomus flavipes* PR

*Glyptapanteles harrisinae* PA

*Hyperaspis senegalensis hottentota* PR

*Metaphycus funicularis* PA

*Metaphycus stramineus* PA

County: Yolo

Genus-species: *Oomyzus gallerucae* PA

**State: CO**

County: Delta

Genus-species: *Brachymeria intermedia* PA

*Brachymeria lasus* PA

*Ephedrus plagiator* PA

*Microlarinus spp.* WE

*Pimpla disparis* PA

*Rhinocyllus conicus* WE

County: Eagle

Genus-species: *Calophasia lunula* WE

**State: CO (continued)**

County: Gunnison

Genus-species: *Rhinocyllus conicus* WE

County: Larimer

Genus-species: *Rhinocyllus conicus* WE

County: Las Animas

Genus-species: *Brachymeria intermedia* PA

*Brachymeria lasus* PA

*Pimpla disparis* PA

County: Mesa

Genus-species: *Brachymeria intermedia* PA

*Brachymeria lasus* PA

*Ephedrus plagiator* PA

*Microctonus aethiopoides* PA

*Microlarinus spp.* WE

*Oomyzus incertus* PA

*Pimpla disparis* PA

*Rhinocyllus conicus* WE

*Trichosirocalus horridus* WE

County: Moffat

Genus-species: *Rhinocyllus conicus* WE

County: Montrose

Genus-species: *Rhinocyllus conicus* WE

*Urophora cardui* WE

County: Pitkin

Genus-species: *Rhinocyllus conicus* WE

County: Rio Blanco

Genus-species: *Calophasia lunula* WE

*Rhinocyllus conicus* WE

**State: CT**

County: Middlesex

Genus-species: *Osmia cornifrons* PO

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**State: CT (continued)**

County: New Haven

Genus-species: *Harmonia axyridis* PR

**State: DC**

County: Washington City

Genus-species: *Arrhenophagus albitibiae* PA  
*Cybocephalus ?nipponicus* PR  
*Pteroptrix n. sp.* PA

**State: DE**

County: Kent

Genus-species: *Anastatus disparis* PA  
*Glyptapanteles flavicoxis* PA  
*Glyptapanteles indiensis* PA  
*Hyposoter lymantriae* PA  
*Pediobius foveolatus* PA

County: New Castle

Genus-species: *Anagrus empoascae* PA  
*Anagrus flaveolus* PA  
*Anagrus giraulti* PA  
*Arescon enocki* PA  
*Edovum puttleri* PA  
*Harmonia axyridis* PR  
*Hyposoter ebeninus* PA  
*Lemophagus crioceritor* PA  
*Meigenia mutabilis* PA  
*Oplomus ebulinus* PR  
*Pediobius foveolatus* PA  
*Scymnus sp.* PR  
*Stethynium empoascae* PA  
*Tetrastichus coeruleus* PA  
*Tetrastichus crioceridis* PA

County: Sussex

Genus-species: *Pediobius foveolatus* PA

**State: FL**

County:

Genus-species: *Bathyplectes curculionis* PA  
*Microctonus colesi* PA

County: Alachua

Genus-species: *Bathyplectes anurus* PA  
*Dibrachoides dynastes* PA  
*Edovum puttleri* PA  
*Oomyzus incertus* PA  
*Paecilomyces lilacinus* MI  
*Trichopria stomoxydis* PA

County: Broward

Genus-species: *Microcharops anticarsiae* PA

County: Dade

Genus-species: *Diachasmimorpha tryoni* PA  
*Microcharops anticarsiae* PA  
*Microplitis rufiventris* PA  
*Psyttalia concolor* PA  
*Psyttalia incisi* PA  
*Zelomorpha sp.* PA

County: Hendry

Genus-species: *Tytthus mundulus* PR

County: Hillsborough

Genus-species: *Larra bicolor* PA

County: Jackson

Genus-species: *Agasicles hygrophila* WE

County: Palm Beach

Genus-species: *Tytthus mundulus* PR

**State: FM**

County: Kosrae

Genus-species: *Encarsia smithi* PA

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---

**State: GA**

County:

Genus-species: *Bathyplectes curculionis* PA  
*Microctonus colesi* PA

County: Berrien

Genus-species: *Encarsia lahorensis* PA

County: Bibb

Genus-species: *Encarsia lahorensis* PA

County: Bleckley

Genus-species: *Encarsia lahorensis* PA

County: Brantley

Genus-species: *Encarsia lahorensis* PA

County: Brooks

Genus-species: *Bathyplectes anurus* PA

County: Bulloch

Genus-species: *Encarsia lahorensis* PA

County: Burke

Genus-species: *Encarsia lahorensis* PA

County: Calhoun

Genus-species: *Encarsia lahorensis* PA

County: Candler

Genus-species: *Encarsia lahorensis* PA

County: Chatham

Genus-species: *Encarsia lahorensis* PA

County: Clay

Genus-species: *Encarsia lahorensis* PA

County: Coffee

Genus-species: *Encarsia lahorensis* PA

**State: GA (continued)**

County: Colquitt

Genus-species: *Bathyplectes anurus* PA  
*Dibrachoides dynastes* PA  
*Encarsia lahorensis* PA  
*Microctonus aethiopoides* PA  
*Microctonus colesi* PA

County: Columbia

Genus-species: *Encarsia lahorensis* PA

County: Crisp

Genus-species: *Encarsia lahorensis* PA

County: Decatur

Genus-species: *Encarsia lahorensis* PA

County: Dodge

Genus-species: *Encarsia lahorensis* PA

County: Dooly

Genus-species: *Encarsia lahorensis* PA

County: Dougherty

Genus-species: *Encarsia lahorensis* PA

County: Early

Genus-species: *Encarsia lahorensis* PA

County: Emanuel

Genus-species: *Encarsia lahorensis* PA

County: Evans

Genus-species: *Encarsia lahorensis* PA

County: Glascock

Genus-species: *Encarsia lahorensis* PA

County: Gordon

Genus-species: *Bathyplectes anurus* PA

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**State: GA (continued)**

County: Grady

Genus-species: *Bathyplectes anurus* PA  
*Encarsia lahorensis* PA  
*Microctonus aethiopoides* PA  
*Microctonus colesi* PA

County: Greene

Genus-species: *Encarsia lahorensis* PA

County: Heard

Genus-species: *Encarsia lahorensis* PA

County: Henry

Genus-species: *Bathyplectes anurus* PA

County: Houston

Genus-species: *Encarsia lahorensis* PA

County: Irwin

Genus-species: *Encarsia lahorensis* PA

County: Jeff Davis

Genus-species: *Encarsia lahorensis* PA

County: Jenkins

Genus-species: *Encarsia lahorensis* PA

County: Jones

Genus-species: *Encarsia lahorensis* PA

County: Lanier

Genus-species: *Agasicles hygrophila* WE

County: Macon

Genus-species: *Bathyplectes anurus* PA  
*Dibrachoides dynastes* PA  
*Encarsia lahorensis* PA  
*Microctonus aethiopoides* PA  
*Microctonus colesi* PA

**State: GA (continued)**

County: Miller

Genus-species: *Encarsia lahorensis* PA

County: Mitchell

Genus-species: *Encarsia lahorensis* PA

County: Montgomery

Genus-species: *Encarsia lahorensis* PA

County: Morgan

Genus-species: *Bathyplectes anurus* PA  
*Microctonus aethiopoides* PA  
*Microctonus colesi* PA  
*Oomyzus incertus* PA

County: Muscogee

Genus-species: *Encarsia lahorensis* PA

County: Pierce-Brantley

Genus-species: *Agasicles hygrophila* WE

County: Pike

Genus-species: *Encarsia lahorensis* PA

County: Pulaski

Genus-species: *Encarsia lahorensis* PA

County: Screven

Genus-species: *Bathyplectes anurus* PA  
*Dibrachoides dynastes* PA  
*Encarsia lahorensis* PA  
*Microctonus aethiopoides* PA  
*Microctonus colesi* PA  
*Oomyzus incertus* PA

County: Seminole

Genus-species: *Agasicles hygrophila* WE

County: Sumter

Genus-species: *Bathyplectes anurus* PA  
*Encarsia lahorensis* PA

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**State: GA (continued)**

County: Tattnall

Genus-species: *Encarsia lahorensis* PA

County: Telfair

Genus-species: *Encarsia lahorensis* PA

County: Terrell

Genus-species: *Encarsia lahorensis* PA

County: Thomas

Genus-species: *Bathyplectes anurus* PA  
*Microctonus aethiopoides* PA  
*Microctonus colesi* PA

County: Tift

Genus-species: *Agasicles hygrophila* WE  
*Encarsia lahorensis* PA

County: Toombs

Genus-species: *Encarsia lahorensis* PA

County: Treutlen

Genus-species: *Encarsia lahorensis* PA

County: Troup

Genus-species: *Encarsia lahorensis* PA

County: Turner

Genus-species: *Encarsia lahorensis* PA

County: Walker

Genus-species: *Bathyplectes anurus* PA

County: Ware-Pierce

Genus-species: *Agasicles hygrophila* WE

**State: GA (continued)**

County: Warren

Genus-species: *Bathyplectes anurus* PA  
*Dibrachoides dynastes* PA  
*Microctonus aethiopoides* PA  
*Microctonus colesi* PA  
*Oomyzus incertus* PA

County: Washington

Genus-species: *Encarsia lahorensis* PA

County: Worth

Genus-species: *Encarsia lahorensis* PA

**State: GU**

County:

Genus-species: *Diglyphus begini* PA

**State: HI**

County: Hawaii

Genus-species: *Amblyseius longispinosus* PR  
*Delphastus pusillus* PR  
*Encarsia* sp. PA  
*Scolothrips sexmaculatus* PR  
*Trichopoda pilipes* PA  
*Triissolcus basalis* PA

County: Honolulu

Genus-species: *Amblyseius longispinosus* PR  
*Cerchysiella utilis* PA  
*Cotesia plutellae* PA  
*Diachasmimorpha longicaudatas* PA  
*Diadromus collaris* PA  
*Galendromus occidentalis* PR  
*Ganaspidium utilis* PA  
*Neoseiulus californicus* PR  
*Nephispis oculata* PR  
*Psyttalia incisi* PA  
*Scolothrips sexmaculatus* PR  
*Steinernema carpocapsae* PA

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---

**State: HI (continued)**

County: Kauai

Genus-species: *Amblyseius longispinosus* PR  
*Encarsia ?haitiensis* PA  
*Nephaspis oculata* PR  
*Scolothrips sexmaculatus* PR

County: Maui

Genus-species: *Amblyseius longispinosus* PR  
*Campoplex n. sp.* PA  
*Cerchysiella utilis* PA  
*Chrysocharis caribea* PA  
*Chrysocharis oscinididis* PA  
*Chrysonotomyia punctiventris* PA  
*Cotesia plutellae* PA  
*Delphastus pusillus* PR  
*Encarsia ?haitiensis* PA  
*Encarsia sp.* PA  
*Eretmocerus sp.* PA  
*Ganaspidium utilis* PA  
*Halticoptera circulus* PA  
*Neoseiulus californicus* PR  
*Nephaspis bicolor* PR  
*Nephaspis oculata* PR  
*Opius dissitus* PA  
*Trissolcus basalis* PA

County: Maui (Lanai I)

Genus-species: *Cerchysiella utilis* PA

County: Maui (Molokai I)

Genus-species: *Delphastus pusillus* PR  
*Encarsia ?haitiensis* PA  
*Nephaspis bicolor* PR  
*Nephaspis oculata* PR

**State: IA**

County:

Genus-species: *Bathyplectes curculionis* PA  
*Microctonus colesi* PA

**State: IA (continued)**

County: Adair

Genus-species: *Bathyplectes anurus* PA  
*Microctonus aethiopoides* PA

County: Adams

Genus-species: *Bathyplectes anurus* PA  
*Microctonus aethiopoides* PA

County: Allamakee

Genus-species: *Bathyplectes anurus* PA

County: Buchanan

Genus-species: *Bathyplectes anurus* PA

County: Butler

Genus-species: *Bathyplectes anurus* PA  
*Microctonus aethiopoides* PA

County: Carroll

Genus-species: *Bathyplectes anurus* PA

County: Cass

Genus-species: *Microctonus aethiopoides* PA

County: Cerro Gordo

Genus-species: *Bathyplectes anurus* PA  
*Microctonus aethiopoides* PA

County: Chickasaw

Genus-species: *Bathyplectes anurus* PA

County: Clarke

Genus-species: *Bathyplectes anurus* PA

County: Clayton

Genus-species: *Dibrachoides dynastes* PA  
*Oomyzus incertus* PA

County: Crawford

Genus-species: *Bathyplectes anurus* PA

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**State: IA (continued)**  
County: Dallas  
Genus-species: *Bathyplectes anurus* PA  
*Microctonus aethiopoides* PA

County: Davis  
Genus-species: *Dibrachoides dynastes* PA

County: Delaware  
Genus-species: *Bathyplectes anurus* PA

County: Des Moines  
Genus-species: *Bathyplectes anurus* PA

County: Fayette  
Genus-species: *Bathyplectes anurus* PA

County: Hardin  
Genus-species: *Bathyplectes anurus* PA  
*Microctonus aethiopoides* PA

County: Harrison  
Genus-species: *Bathyplectes anurus* PA

County: Iowa  
Genus-species: *Bathyplectes anurus* PA

County: Jackson  
Genus-species: *Bathyplectes anurus* PA

County: Jasper  
Genus-species: *Bathyplectes anurus* PA

County: Jefferson  
Genus-species: *Bathyplectes anurus* PA

County: Linn  
Genus-species: *Bathyplectes anurus* PA

County: Marshall  
Genus-species: *Bathyplectes anurus* PA

**State: IA (continued)**  
County: Monroe  
Genus-species: *Bathyplectes anurus* PA

County: Montgomery  
Genus-species: *Bathyplectes anurus* PA  
*Microctonus aethiopoides* PA

County: Muscatine  
Genus-species: *Bathyplectes anurus* PA

County: Page  
Genus-species: *Bathyplectes anurus* PA  
*Microctonus aethiopoides* PA

County: Pottawattamie  
Genus-species: *Bathyplectes anurus* PA  
*Microctonus aethiopoides* PA

County: Ringgold  
Genus-species: *Bathyplectes anurus* PA  
*Microctonus aethiopoides* PA

County: Scott  
Genus-species: *Bathyplectes anurus* PA

County: Story  
Genus-species: *Osmia cornifrons* PO

County: Taylor  
Genus-species: *Bathyplectes anurus* PA  
*Microctonus aethiopoides* PA

County: Warren  
Genus-species: *Bathyplectes anurus* PA  
*Microctonus aethiopoides* PA

County: Washington  
Genus-species: *Bathyplectes anurus* PA

County: Wayne  
Genus-species: *Bathyplectes anurus* PA

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**State: IA (continued)**

County: Webster

Genus-species: *Bathyplectes anurus* PA  
*Microctonus aethiopoides* PA

**State: ID**

County:

Genus-species: *Urophora affinis* WE  
*Urophora quadrifasciata* WE

County: Bonner

Genus-species: *Osmia cornifrons* PO

County: Custer

Genus-species: *Rhinocyllus conicus* WE

County: Kootenai

Genus-species: *Calophasia lunula* WE

County: Nez Perce

Genus-species: *Urophora cardui* WE

**State: IL**

County:

Genus-species: *Bathyplectes curculionis* PA  
*Microctonus colesi* PA

County: Adams

Genus-species: *Bathyplectes anurus* PA

County: Bond

Genus-species: *Bathyplectes anurus* PA

County: Boone

Genus-species: *Bathyplectes anurus* PA

County: Bureau

Genus-species: *Bathyplectes anurus* PA

**State: IL (continued)**

County: Clark

Genus-species: *Bathyplectes anurus* PA

County: Coles

Genus-species: *Bathyplectes anurus* PA

County: Du Page

Genus-species: *Osmia cornifrons* PO

County: Effingham

Genus-species: *Bathyplectes anurus* PA

County: Fayette

Genus-species: *Bathyplectes anurus* PA

County: Hamilton

Genus-species: *Bathyplectes anurus* PA

County: Henderson

Genus-species: *Bathyplectes anurus* PA

County: Iroquois

Genus-species: *Bathyplectes anurus* PA

County: Jackson

Genus-species: *Bathyplectes anurus* PA

County: Kane

Genus-species: *Bathyplectes anurus* PA

County: Kendall

Genus-species: *Bathyplectes anurus* PA

County: Livingston

Genus-species: *Bathyplectes anurus* PA

County: Madison

Genus-species: *Bathyplectes anurus* PA

County: McHenry

Genus-species: *Bathyplectes anurus* PA

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**State: IL (continued)**

County: McLean

Genus-species: *Bathyplectes anurus* PA

County: Mercer

Genus-species: *Bathyplectes anurus* PA

County: Montgomery

Genus-species: *Bathyplectes anurus* PA

County: Moultrie

Genus-species: *Bathyplectes anurus* PA

County: Ogle

Genus-species: *Bathyplectes anurus* PA

County: Peoria

Genus-species: *Bathyplectes anurus* PA

County: Rock Island

Genus-species: *Bathyplectes anurus* PA

County: Schuyler

Genus-species: *Bathyplectes anurus* PA

County: Shelby

Genus-species: *Bathyplectes anurus* PA

County: Stark

Genus-species: *Osmia cornifrons* PO

County: Stephenson

Genus-species: *Bathyplectes anurus* PA

County: Union

Genus-species: *Bathyplectes anurus* PA

County: Vermilion

Genus-species: *Bathyplectes anurus* PA

County: Warren

Genus-species: *Bathyplectes anurus* PA

**State: IL (continued)**

County: Washington

Genus-species: *Bathyplectes anurus* PA

County: Wayne

Genus-species: *Bathyplectes anurus* PA

County: Will

Genus-species: *Bathyplectes anurus* PA

County: Winnebago

Genus-species: *Bathyplectes anurus* PA

County: Woodford

Genus-species: *Bathyplectes anurus* PA

**State: IN**

County: Porter

Genus-species: *Osmia cornifrons* PO

**State: KS**

County:

Genus-species: *Bathyplectes curculionis* PA  
*Microctonus colesi* PA

County: Atchison

Genus-species: *Bathyplectes anurus* PA

County: Barton

Genus-species: *Bathyplectes anurus* PA

County: Bourbon

Genus-species: *Bathyplectes anurus* PA

County: Brown

Genus-species: *Bathyplectes anurus* PA  
*Microctonus aethiopoides* PA

County: Cherokee

Genus-species: *Bathyplectes anurus* PA

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**State: KS (continued)**

County: Cloud

Genus-species: *Rhinocyllus conicus* WE

County: Comanche

Genus-species: *Bathyplectes anurus* PA

County: Cowley

Genus-species: *Bathyplectes anurus* PA

County: Crawford

Genus-species: *Bathyplectes anurus* PA  
*Osmia cornifrons* PO

County: Dickinson

Genus-species: *Bathyplectes anurus* PA

County: Doniphan

Genus-species: *Bathyplectes anurus* PA

County: Douglas

Genus-species: *Bathyplectes anurus* PA

County: Franklin

Genus-species: *Bathyplectes anurus* PA

County: Graham

Genus-species: *Bathyplectes anurus* PA

County: Greenwood

Genus-species: *Bathyplectes anurus* PA

County: Jackson

Genus-species: *Bathyplectes anurus* PA

County: Jefferson

Genus-species: *Bathyplectes anurus* PA  
*Dibrachoides dynastes* PA  
*Microctonus aethiopoides* PA  
*Oomyzus incertus* PA

**State: KS (continued)**

County: Johnson

Genus-species: *Bathyplectes anurus* PA

County: Lincoln

Genus-species: *Bathyplectes anurus* PA

County: Linn

Genus-species: *Bathyplectes anurus* PA

County: Marion

Genus-species: *Bathyplectes anurus* PA

County: Marshall

Genus-species: *Bathyplectes anurus* PA  
*Microctonus aethiopoides* PA

County: Miami

Genus-species: *Bathyplectes anurus* PA

County: Mitchell

Genus-species: *Rhinocyllus conicus* WE

County: Montgomery

Genus-species: *Bathyplectes anurus* PA  
*Dibrachoides dynastes* PA  
*Microctonus aethiopoides* PA  
*Oomyzus incertus* PA

County: Ness

Genus-species: *Bathyplectes anurus* PA

County: Osage

Genus-species: *Bathyplectes anurus* PA

County: Osborne

Genus-species: *Bathyplectes anurus* PA  
*Rhinocyllus conicus* WE

County: Pottawatomie

Genus-species: *Bathyplectes anurus* PA

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**State: KS (continued)**

County: Pratt

Genus-species: *Bathyplectes anurus* PA

County: Russell

Genus-species: *Bathyplectes anurus* PA

County: Scott

Genus-species: *Bathyplectes anurus* PA

County: Sedgwick

Genus-species: *Bathyplectes anurus* PA

County: Sheridan

Genus-species: *Bathyplectes anurus* PA

**State: KY**

County:

Genus-species: *Bathyplectes curculionis* PA  
*Microctonus colesi* PA

County: Clark

Genus-species: *Microctonus aethiopoides* PA

County: Fayette

Genus-species: *Microctonus aethiopoides* PA

County: Hardin

Genus-species: *Microctonus aethiopoides* PA

County: Laurel

Genus-species: *Bathyplectes anurus* PA

County: Lincoln

Genus-species: *Microctonus aethiopoides* PA

County: Logan

Genus-species: *Bathyplectes anurus* PA

County: Monroe

Genus-species: *Bathyplectes anurus* PA

**State: KY (continued)**

County: Pulaski

Genus-species: *Bathyplectes anurus* PA

County: Shelby

Genus-species: *Microctonus aethiopoides* PA

County: Warren

Genus-species: *Bathyplectes anurus* PA

**State: LA**

County:

Genus-species: *Bathyplectes curculionis* PA  
*Microctonus colesi* PA

County: Acadia

Genus-species: *Encarsia lahorensis* PA

County: Allen

Genus-species: *Encarsia lahorensis* PA

County: Ascension

Genus-species: *Encarsia lahorensis* PA

County: Bossier

Genus-species: *Bathyplectes anurus* PA  
*Dibrachoides dynastes* PA  
*Encarsia lahorensis* PA  
*Microctonus aethiopoides* PA  
*Microctonus colesi* PA  
*Oomyzus incertus* PA

County: Caddo

Genus-species: *Bathyplectes anurus* PA  
*Dibrachoides dynastes* PA

County: Caldwell

Genus-species: *Encarsia lahorensis* PA

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**State: LA (continued)**

County: Claiborne

Genus-species: *Bathyplectes anurus* PA  
*Dibrachoides dynastes* PA

County: East Baton Rouge

Genus-species: *Cotesia ruficrus* PA  
*Encarsia lahorensis* PA  
*Telenomus chloropus* PA

County: East Carroll

Genus-species: *Encarsia lahorensis* PA

County: East Feliciana

Genus-species: *Bathyplectes anurus* PA  
*Dibrachoides dynastes* PA  
*Encarsia lahorensis* PA

County: Grant

Genus-species: *Bathyplectes anurus* PA  
*Dibrachoides dynastes* PA  
*Microctonus aethiopoides* PA  
*Microctonus colesi* PA

County: Iberville

Genus-species: *Encarsia lahorensis* PA  
*Telenomus chloropus* PA

County: Jackson

Genus-species: *Encarsia lahorensis* PA

County: Jefferson

Genus-species: *Encarsia lahorensis* PA

County: Lafourche

Genus-species: *Encarsia lahorensis* PA

County: Livingston

Genus-species: *Encarsia lahorensis* PA

**State: LA (continued)**

County: Madison

Genus-species: *Encarsia lahorensis* PA

County: Morehouse

Genus-species: *Encarsia lahorensis* PA

County: Natchitoches

Genus-species: *Bathyplectes anurus* PA  
*Encarsia lahorensis* PA  
*Microctonus aethiopoides* PA  
*Microctonus colesi* PA

County: Orleans

Genus-species: *Encarsia lahorensis* PA

County: Ouachita

Genus-species: *Encarsia lahorensis* PA

County: Plaquemines

Genus-species: *Encarsia lahorensis* PA

County: Pointe Coupee

Genus-species: *Encarsia lahorensis* PA

County: Red River

Genus-species: *Bathyplectes anurus* PA  
*Dibrachoides dynastes* PA  
*Encarsia lahorensis* PA  
*Microctonus aethiopoides* PA  
*Microctonus colesi* PA

County: Sabine

Genus-species: *Encarsia lahorensis* PA

County: St Charles

Genus-species: *Encarsia lahorensis* PA

County: St Helena

Genus-species: *Bathyplectes anurus* PA  
*Oomyzus incertus* PA

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**State: LA (continued)**

County: St John /Baptist

Genus-species: *Encarsia lahorensis* PA

County: St Landry

Genus-species: *Telenomus chloropus* PA

County: St Tammany

Genus-species: *Encarsia lahorensis* PA

County: Tangipahoa

Genus-species: *Bathyplectes anurus* PA  
*Microctonus aethiopoides* PA  
*Microctonus colesi* PA  
*Telenomus chloropus* PA

County: Terrebonne

Genus-species: *Encarsia lahorensis* PA

County: Union

Genus-species: *Encarsia lahorensis* PA

County: Vernon

Genus-species: *Encarsia lahorensis* PA

County: West Baton Rouge

Genus-species: *Encarsia lahorensis* PA

County: West Feliciana

Genus-species: *Encarsia lahorensis* PA

County: Winn

Genus-species: *Encarsia lahorensis* PA

**State: MA**

County: Barnstable

Genus-species: *Aleiodes lymantriae* PA

County: Plymouth

Genus-species: *Osmia cornifrons* PO

**State: MD**

County: Caroline

Genus-species: *Pediobius foveolatus* PA

County: Carroll

Genus-species: *Coccipolipus epilachnae* PA  
*Edovum puttleri* PA  
*Pediobius foveolatus* PA

County: Dorchester

Genus-species: *Pediobius foveolatus* PA

County: Frederick

Genus-species: *Amblyseius* sp. PR  
*Glyptapanteles flavicoxis* PA  
*Phytoseiulus persimilis* PR  
*Trichosirocalus horridus* WE

County: Howard

Genus-species: *Istocheta aldrichi* PA  
*Osmia cornifrons* PO

County: Kent

Genus-species: *Pediobius foveolatus* PA

County: Montgomery

Genus-species: *Istocheta aldrichi* PA  
*Pediobius foveolatus* PA

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**State: MD (continued)**

County: Prince Georges

Genus-species: *Coccipolipus epilachnae* PA  
*Edovum puttleri* PA  
*Encarsia citrina* PA  
*Encarsia fasciata* PA  
*Glyptapanteles flavicoxis* PA  
*Hyles euphorbiae* WE  
*Istocheta aldrichi* PA  
*Osmia cornifrons* PO  
*Pteroptrix n. sp.* PA  
*Urophora affinis* WE  
*Urophora cardui* WE  
*Urophora quadrifasciata* WE  
*Urophora stylata* WE

County: Queen Anne

Genus-species: *Lemophagus crioceritor* PA  
*Meigenia mutabilis* PA  
*Pediobius foveolatus* PA  
*Tetrastichus coeruleus* PA  
*Tetrastichus crioceridis* PA

County: Somerset

Genus-species: *Pediobius foveolatus* PA

County: Talbot

Genus-species: *Pediobius foveolatus* PA

County: Washington

Genus-species: *Trichosirocalus horridus* WE

County: Wicomico

Genus-species: *Pediobius foveolatus* PA

County: Worcester

Genus-species: *Pediobius foveolatus* PA

**State: ME**

County: Franklin

Genus-species: *Pediobius foveolatus* PA

**State: ME (continued)**

County: Kennebec

Genus-species: *Edovum puttleri* PA  
*Pediobius foveolatus* PA

County: Washington

Genus-species: *Ancistrocerus catskill* PR  
*Ancistrocerus tuberculocephalus* PR  
*Euodynerus hidalgo* PR  
*Euodynerus leucomelas* PR

**State: MI**

County:

Genus-species: *Bathyplectes curculionis* PA  
*Microctonus colesi* PA

County: Alcona

Genus-species: *Bathyplectes anurus* PA

County: Allegan

Genus-species: *Bathyplectes anurus* PA

County: Antrim

Genus-species: *Bathyplectes anurus* PA

County: Bay

Genus-species: *Bathyplectes anurus* PA

County: Berrien

Genus-species: *Amblyseius sp.* PR  
*Encarsia formosa* PA  
*Phytoseiulus persimilis* PR

County: Calhoun

Genus-species: *Bathyplectes anurus* PA

County: Cass

Genus-species: *Bathyplectes stenostigma* PA

County: Chippewa

Genus-species: *Bathyplectes anurus* PA

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<b>State: MI (continued)</b>	<b>State: MI (continued)</b>
County: Crawford	County: Isabella
Genus-species: <i>Bathyplectes anurus</i> PA	Genus-species: <i>Bathyplectes anurus</i> PA
County: Delta	County: Kent
Genus-species: <i>Bathyplectes anurus</i> PA	Genus-species: <i>Bathyplectes anurus</i> PA
County: Dickinson	County: Leelanau
Genus-species: <i>Bathyplectes anurus</i> PA	Genus-species: <i>Bathyplectes anurus</i> PA
County: Emmet	County: Leelanau
Genus-species: <i>Bathyplectes anurus</i> PA	Genus-species: <i>Osmia cornifrons</i> PO
County: Genesee	County: Manistee
Genus-species: <i>Bathyplectes anurus</i> PA	Genus-species: <i>Bathyplectes anurus</i> PA
County: Gladwin	County: Mason
Genus-species: <i>Bathyplectes anurus</i> PA	Genus-species: <i>Bathyplectes anurus</i> PA
County: Gogebic	County: Missaukee
Genus-species: <i>Bathyplectes anurus</i> PA	Genus-species: <i>Bathyplectes anurus</i> PA
County: Grand Traverse	County: Monroe
Genus-species: <i>Bathyplectes anurus</i> PA	Genus-species: <i>Bathyplectes anurus</i> PA <i>Edovum puttleri</i> PA
County: Gratiot	County: Montmorency
Genus-species: <i>Aleiodes lymantriae</i> PA	Genus-species: <i>Bathyplectes anurus</i> PA
<i>Bathyplectes anurus</i> PA	
County: Hillsdale	County: Newaygo
Genus-species: <i>Bathyplectes anurus</i> PA	Genus-species: <i>Bathyplectes anurus</i> PA
County: Houghton	County: Oakland
Genus-species: <i>Bathyplectes anurus</i> PA	Genus-species: <i>Bathyplectes anurus</i> PA <i>Osmia cornifrons</i> PO
County: Huron	County: Ogemaw
Genus-species: <i>Bathyplectes anurus</i> PA	Genus-species: <i>Bathyplectes anurus</i> PA
County: Ingham	County: Osceola
Genus-species: <i>Bathyplectes anurus</i> PA	Genus-species: <i>Bathyplectes anurus</i> PA

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---

**State: MI (continued)**

County: Presque Isle

Genus-species: *Bathyplectes anurus* PA

County: Sanilac

Genus-species: *Osmia cornifrons* PO

County: St Clair

Genus-species: *Bathyplectes anurus* PA

County: St Joseph

Genus-species: *Bathyplectes anurus* PA

County: Washtenaw

Genus-species: *Bathyplectes anurus* PA

**State: MN**

County:

Genus-species: *Bathyplectes curculionis* PA  
*Microctonus colesi* PA

County: Dakota

Genus-species: *Bathyplectes anurus* PA

County: Wabasha

Genus-species: *Bathyplectes anurus* PA

County: Washington

Genus-species: *Bathyplectes anurus* PA

County: Wright

Genus-species: *Bathyplectes anurus* PA

**State: MO**

County:

Genus-species: *Bathyplectes curculionis* PA  
*Microctonus colesi*

County: Adair

Genus-species: *Bathyplectes anurus* PA

**State: MO (continued)**

County: Bates

Genus-species: *Rhinocyllus conicus* WE

County: Benton

Genus-species: *Rhinocyllus conicus* WE

County: Boone

Genus-species: *Cotesia rubecula* PA  
*Edovum puttleri* PA  
*Hyposoter ebeninus* PA

County: Buchanan

Genus-species: *Bathyplectes anurus* PA

County: Caldwell

Genus-species: *Rhinocyllus conicus* WE

County: Camden

Genus-species: *Bathyplectes anurus* PA

County: Cass

Genus-species: *Rhinocyllus conicus* WE

County: Cedar

Genus-species: *Rhinocyllus conicus* WE

County: Christian

Genus-species: *Bathyplectes anurus* PA  
*Cotesia plutellae* PA  
*Cotesia rubecula* PA  
*Rhinocyllus conicus* WE

County: Clinton

Genus-species: *Bathyplectes anurus* PA

County: Cole

Genus-species: *Bathyplectes anurus* PA

County: Cooper

Genus-species: *Bathyplectes anurus* PA  
*Pholetesor pedias* PA

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---

State: MO (continued)

County: Dade

Genus-species: *Bathyplectes anurus* PA  
*Rhinocyllus conicus* WE

County: Dallas

Genus-species: *Bathyplectes anurus* PA  
*Rhinocyllus conicus* WE

County: DeKalb

Genus-species: *Rhinocyllus conicus* WE

County: Franklin

Genus-species: *Bathyplectes anurus* PA

County: Gasconade

Genus-species: *Bathyplectes anurus* PA

County: Gentry

Genus-species: *Bathyplectes anurus* PA

County: Greene

Genus-species: *Dibrachoides dynastes* PA

County: Grundy

Genus-species: *Rhinocyllus conicus* WE

County: Henry

Genus-species: *Bathyplectes anurus* PA  
*Rhinocyllus conicus* WE

County: Howard

Genus-species: *Cotesia rubecula* PA  
*Hyposoter ebeninus* PA  
*Rhinocyllus conicus* WE

County: Iron

Genus-species: *Bathyplectes anurus* PA  
*Rhinocyllus conicus* WE

County: Jackson

Genus-species: *Rhinocyllus conicus* WE

State: MO (continued)

County: Jasper

Genus-species: *Bathyplectes anurus* PA

County: Jefferson

Genus-species: *Bathyplectes anurus* PA

County: Johnson

Genus-species: *Rhinocyllus conicus* WE

County: Knox

Genus-species: *Bathyplectes anurus* PA

County: Lawrence

Genus-species: *Bathyplectes anurus* PA  
*Cotesia plutellae* PA  
*Cotesia rubecula* PA  
*Hyposoter ebeninus* PA

County: Lincoln

Genus-species: *Bathyplectes anurus* PA

County: Linn

Genus-species: *Bathyplectes anurus* PA

County: Macon

Genus-species: *Bathyplectes anurus* PA

County: Madison

Genus-species: *Bathyplectes anurus* PA  
*Rhinocyllus conicus* WE

County: Marion

Genus-species: *Bathyplectes anurus* PA

County: Montgomery

Genus-species: *Bathyplectes anurus* PA

County: Newton

Genus-species: *Bathyplectes anurus* PA  
*Microctonus aethiopoides* PA

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---

State: MO (continued)

County: Osage

Genus-species: *Bathyplectes anurus* PA

County: Pettis

Genus-species: *Bathyplectes anurus* PA

County: Pike

Genus-species: *Bathyplectes anurus* PA

County: Platte

Genus-species: *Bathyplectes anurus* PA  
*Rhinocyllus conicus* WE

County: Polk

Genus-species: *Bathyplectes anurus* PA  
*Rhinocyllus conicus* WE

County: Ray

Genus-species: *Rhinocyllus conicus* WE

County: Saline

Genus-species: *Pholetesor pedias* PA

County: Schuyler

Genus-species: *Bathyplectes stenostigma* PA  
*Dibrachoides dynastes* PA

County: Scott

Genus-species: *Bathyplectes anurus* PA

County: St Charles

Genus-species: *Bathyplectes anurus* PA

County: St Francois

Genus-species: *Rhinocyllus conicus* WE

County: St Louis

Genus-species: *Cotesia plutellae* PA  
*Cotesia rubecula* PA

State: MO (continued)

County: Ste Genevieve

Genus-species: *Bathyplectes anurus* PA

County: Ste Genevieve?

Genus-species: *Rhinocyllus conicus* WE

County: Vernon

Genus-species: *Bathyplectes anurus* PA

County: Washington

Genus-species: *Bathyplectes anurus* PA

County: Worth

Genus-species: *Bathyplectes anurus* PA  
*Rhinocyllus conicus* WE

County: Wright

Genus-species: *Rhinocyllus conicus* WE

State: MS

County:

Genus-species: *Bathyplectes curculionis* PA  
*Microctonus colesi* PA

County: Adams

Genus-species: *Encarsia lahorensis* PA

County: Alcorn

Genus-species: *Bathyplectes anurus* PA

County: Amite

Genus-species: *Bathyplectes anurus* PA  
*Microctonus aethiopoides* PA  
*Microctonus colesi* PA

County: Attala

Genus-species: *Bathyplectes anurus* PA  
*Dibrachoides dynastes* PA  
*Encarsia lahorensis* PA

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---

State: MS (continued)

County: Benton

Genus-species: *Bathyplectes anurus* PA

County: Choctaw

Genus-species: *Encarsia lahorensis* PA

County: Clairborne

Genus-species: *Encarsia lahorensis* PA

County: Copiah

Genus-species: *Encarsia lahorensis* PA

County: Covington

Genus-species: *Encarsia lahorensis* PA

County: Forrest

Genus-species: *Encarsia lahorensis* PA

County: Franklin

Genus-species: *Encarsia lahorensis* PA

County: George

Genus-species: *Encarsia lahorensis* PA

County: Hancock

Genus-species: *Encarsia lahorensis* PA

County: Harrison

Genus-species: *Encarsia lahorensis* PA

County: Jackson

Genus-species: *Encarsia lahorensis* PA

County: Jasper

Genus-species: *Bathyplectes anurus* PA

Genus-species: *Encarsia lahorensis* PA

County: Jefferson Davis

Genus-species: *Encarsia lahorensis* PA

State: MS (continued)

County: Jones

Genus-species: *Encarsia lahorensis* PA

County: Lawrence

Genus-species: *Bathyplectes anurus* PA  
*Dibrachoides dynastes* PA  
*Encarsia lahorensis* PA  
*Microctonus aethiopoides* PA  
*Microctonus colesi* PA  
*Oomyzus incertus* PA

County: Leake

Genus-species: *Encarsia lahorensis* PA

County: Lee

Genus-species: *Bathyplectes anurus* PA

County: Leflore

Genus-species: *Agasicles hygrophila* WE

County: Lincoln

Genus-species: *Encarsia lahorensis* PA

County: Marion

Genus-species: *Encarsia lahorensis* PA

County: Marshall

Genus-species: *Bathyplectes anurus* PA

County: Monroe

Genus-species: *Bathyplectes anurus* PA  
*Dibrachoides dynastes* PA

County: Neshoba

Genus-species: *Bathyplectes anurus* PA  
*Encarsia lahorensis* PA

County: Noxubee

Genus-species: *Bathyplectes anurus* PA  
*Oomyzus incertus* PA

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**State: MS (continued)**

County: Pearl River

Genus-species: *Encarsia lahorensis* PA

County: Perry

Genus-species: *Encarsia lahorensis* PA

County: Pike

Genus-species: *Encarsia lahorensis* PA

County: Pontotoc

Genus-species: *Bathyplectes anurus* PA

County: Prentiss

Genus-species: *Bathyplectes anurus* PA

County: Scott

Genus-species: *Bathyplectes anurus* PA  
*Encarsia lahorensis* PA  
*Stethynium empoascae* PA

County: Simpson

Genus-species: *Encarsia lahorensis* PA

County: Smith

Genus-species: *Encarsia lahorensis* PA

County: Stone

Genus-species: *Bathyplectes anurus* PA  
*Encarsia lahorensis* PA

County: Tunica

Genus-species: *Bathyplectes anurus* PA

County: Walthall

Genus-species: *Bathyplectes anurus* PA  
*Dibrachoides dynastes* PA  
*Encarsia lahorensis* PA

County: Warren

Genus-species: *Agasicles hygrophila* WE  
*Encarsia lahorensis* PA

**State: MS (continued)**

County: Washington

Genus-species: *Harmonia axyridis* PR

County: Webster

Genus-species: *Bathyplectes anurus* PA  
*Dibrachoides dynastes* PA

County: Wilkinson

Genus-species: *Encarsia lahorensis* PA

County: Winston

Genus-species: *Bathyplectes anurus* PA  
*Encarsia lahorensis* PA

County: Yalobusha

Genus-species: *Bathyplectes anurus* PA  
*Dibrachoides dynastes* PA

County: Yazoo

Genus-species: *Bathyplectes anurus* PA  
*Microctonus aethiopoides* PA  
*Microctonus colesi* PA  
*Oomyzus incertus* PA

**State: MT**

County:

Genus-species: *Urophora affinis* WE

County: ?

Genus-species: *Urophora quadrifasciata* WE

County: Carbon

Genus-species: *Microctonus aethiopoides* PA  
*Oomyzus incertus* PA

County: Cascade

Genus-species: *Rhinocyllus conicus* WE

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---

**STATE: MT (continued)**

County: Gallatin

Genus-species: *Hadroplontus litura* WE  
*Hyles euphorbiae* WE  
*Trichosirocalus horridus* WE

County: Jefferson

Genus-species: *Calophasia lunula* WE

County: Lewis and Clark

Genus-species: *Calophasia lunula* WE

County: Mineral

Genus-species: *Sphenoptera jugoslavica* WE

County: Missoula

Genus-species: *Metzneria paucipunctella* WE

County: Ravalli

Genus-species: *Hyles euphorbiae* WE  
*Metzneria paucipunctella* WE

County: Silver Bow

Genus-species: *Rhinocyllus conicus* WE

County: Stillwater

Genus-species: *Hyles euphorbiae* WE  
*Oberea erythrocephala* WE

County: Teton

Genus-species: *Hyles euphorbiae* WE

County: Yellowstone

Genus-species: *Rhinocyllus conicus* WE

**STATE: NC**

County:

Genus-species: *Bathyplectes curculionis* PA  
*Microctonus colesi* PA

**STATE: NC (continued)**

County: Alleghany

Genus-species: *Bathyplectes anurus* PA

County: Anson

Genus-species: *Encarsia lahorensis* PA

County: Ashe

Genus-species: *Bathyplectes anurus* PA

County: Beaufort

Genus-species: *Encarsia lahorensis* PA

County: Bertie

Genus-species: *Encarsia lahorensis* PA

County: Bladen

Genus-species: *Encarsia lahorensis* PA

County: Brunswick

Genus-species: *Encarsia lahorensis* PA

County: Buncombe

Genus-species: *Bathyplectes anurus* PA

County: Carteret

Genus-species: *Encarsia lahorensis* PA

County: Chowan

Genus-species: *Encarsia lahorensis* PA

County: Cleveland

Genus-species: *Bathyplectes anurus* PA

County: Columbus

Genus-species: *Encarsia lahorensis* PA

County: Craven

Genus-species: *Agasicles hygrophila* WE  
*Encarsia lahorensis* PA

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**State: NC (continued)**

County: Cumberland

Genus-species: *Encarsia lahorensis* PA

County: Dare

Genus-species: *Encarsia lahorensis* PA

County: Davidson

Genus-species: *Bathyplectes anurus* PA

County: Duplin

Genus-species: *Encarsia lahorensis* PA

County: Edgecombe

Genus-species: *Encarsia lahorensis* PA

County: Granville

Genus-species: *Tetrastichus julis* PA

County: Greene

Genus-species: *Encarsia lahorensis* PA

County: Guilford

Genus-species: *Encarsia lahorensis* PA

County: Harnett

Genus-species: *Encarsia lahorensis* PA

County: Haywood

Genus-species: *Bathyplectes anurus* PA

County: Hertford

Genus-species: *Encarsia lahorensis* PA

County: Johnston

Genus-species: *Encarsia lahorensis* PA

County: Jones

Genus-species: *Encarsia lahorensis* PA

County: Lenoir

Genus-species: *Encarsia lahorensis* PA

**State: NC (continued)**

County: Lincoln

Genus-species: *Bathyplectes anurus* PA

County: Martin

Genus-species: *Encarsia lahorensis* PA

County: Mecklenburg

Genus-species: *Encarsia lahorensis* PA

County: New Hanover

Genus-species: *Encarsia lahorensis* PA

County: Onslow

Genus-species: *Encarsia lahorensis* PA

County: Orange

Genus-species: *Bathyplectes anurus* PA

County: Pasquotank

Genus-species: *Encarsia lahorensis* PA

County: Pender

Genus-species: *Agasicles hygrophila* WE  
*Encarsia lahorensis* PA

County: Perquimans

Genus-species: *Encarsia lahorensis* PA

County: Pitt

Genus-species: *Encarsia lahorensis* PA

County: Richmond

Genus-species: *Encarsia lahorensis* PA

County: Robeson

Genus-species: *Bathyplectes anurus* PA  
*Encarsia lahorensis* PA

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State: NC

County: Sampson

Genus-species: *Agasicles hygrophila* WE  
*Encarsia lahorensis* PA  
*Trichogramma pretiosum* PA

County: Scotland

Genus-species: *Encarsia lahorensis* PA

County: Union

Genus-species: *Encarsia lahorensis* PA

County: Wake

Genus-species: *Encarsia lahorensis* PA  
*Istocheta aldrichi* PA

County: Washington

Genus-species: *Agasicles hygrophila* WE

County: Wayne

Genus-species: *Encarsia lahorensis* PA

County: Wilson

Genus-species: *Encarsia lahorensis* PA

State: ND

County:

Genus-species: *Bathyplectes curculionis* PA  
*Microctonus colesi* PA

County: Burleigh

Genus-species: *Bathyplectes anurus* PA  
*Microctonus aethiopoides* PA

County: Cavalier

Genus-species: *Rhinocyllus conicus* WE

County: McKenzie

Genus-species: *Bathyplectes anurus* PA  
*Microctonus aethiopoides* PA

State: NE

County:

Genus-species: *Bathyplectes curculionis* PA  
*Microctonus colesi* PA

County: Adams

Genus-species: *Rhinocyllus conicus* WE

County: Blaine

Genus-species: *Bathyplectes anurus* PA

County: Boone

Genus-species: *Rhinocyllus conicus* WE

County: Brown

Genus-species: *Bathyplectes anurus* PA

County: Buffalo

Genus-species: *Bathyplectes anurus* PA

County: Burt

Genus-species: *Bathyplectes anurus* PA

County: Cherry

Genus-species: *Bathyplectes anurus* PA

County: Clay

Genus-species: *Rhinocyllus conicus* WE

County: Custer

Genus-species: *Bathyplectes anurus* PA

County: Dawson

Genus-species: *Bathyplectes anurus* PA  
*Rhinocyllus conicus* WE

County: Deuel

Genus-species: *Bathyplectes anurus* PA

County: Dundy

Genus-species: *Bathyplectes anurus* PA  
*Microctonus aethiopoides* PA

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**State: NE (continued)**

County: Fillmore

Genus-species: *Rhinocyllus conicus* WE

County: Franklin

Genus-species: *Bathyplectes anurus* PA

County: Furnas

Genus-species: *Bathyplectes anurus* PA  
*Microctonus aethiopoides* PA  
*Rhinocyllus conicus* WE

County: Gage

Genus-species: *Bathyplectes anurus* PA  
*Microctonus aethiopoides* PA

County: Hall

Genus-species: *Bathyplectes anurus* PA

County: Hamilton

Genus-species: *Bathyplectes anurus* PA

County: Harlan

Genus-species: *Bathyplectes anurus* PA

County: Hitchcock

Genus-species: *Bathyplectes anurus* PA

County: Howard

Genus-species: *Bathyplectes anurus* PA  
*Rhinocyllus conicus* WE

County: Keith

Genus-species: *Bathyplectes anurus* PA

County: Kimball

Genus-species: *Bathyplectes anurus* PA

County: Lancaster

Genus-species: *Muscidifurax zaraptor* PA

**State: NE (continued)**

County: Lincoln

Genus-species: *Bathyplectes anurus* PA

County: Madison

Genus-species: *Rhinocyllus conicus* WE

County: Merrick

Genus-species: *Rhinocyllus conicus* WE

County: Morrill

Genus-species: *Bathyplectes anurus* PA

County: Nance

Genus-species: *Bathyplectes anurus* PA

County: Nemaha

Genus-species: *Rhinocyllus conicus* WE

County: Nuckolls

Genus-species: *Bathyplectes anurus* PA  
*Rhinocyllus conicus* WE

County: Otoe

Genus-species: *Bathyplectes anurus* PA  
*Microctonus aethiopoides* PA  
*Rhinocyllus conicus* WE

County: Pawnee

Genus-species: *Rhinocyllus conicus* WE

County: Perkins

Genus-species: *Bathyplectes anurus* PA

County: Pierce

Genus-species: *Bathyplectes anurus* PA

County: Platte

Genus-species: *Bathyplectes anurus* PA

County: Red Willow

Genus-species: *Rhinocyllus conicus* WE

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**State: NE (continued)**

County: Saunders

Genus-species: *Bathyplectes anurus* PA

County: Scotts Bluff

Genus-species: *Bathyplectes anurus* PA

County: Seward

Genus-species: *Bathyplectes anurus* PA

County: Sheridan

Genus-species: *Bathyplectes anurus* PA

County: Thayer

Genus-species: *Bathyplectes anurus* PA

*Microctonus aethiopoides* PA

*Rhinocyllus conicus* WE

**State: NJ**

County: Burlington

Genus-species: *Oplomus ebulinus* PR  
*Pediobius foveolatus* PA

County: Cape May

Genus-species: *Pediobius foveolatus* PA

County: Cumberland

Genus-species: *Pediobius foveolatus* PA

County: Gloucester

Genus-species: *Pediobius foveolatus* PA

County: Hunterdon

Genus-species: *Hyposoter lymantriae* PA

County: Mercer

Genus-species: *Oplomus ebulinus* PR  
*Pediobius foveolatus* PA

**State: NJ (continued)**

County: Middlesex

Genus-species: *Edovum puttleri* PA  
*Glyptapanteles flavicoxis* PA  
*Pediobius foveolatus* PA

County: Monmouth

Genus-species: *Edovum puttleri* PA  
*Oplomus ebulinus* PR  
*Pediobius foveolatus* PA

County: Morris

Genus-species: *Glyptapanteles flavicoxis* PA  
*Pediobius foveolatus* PA

County: Ocean

Genus-species: *Oplomus ebulinus* PR  
*Pediobius foveolatus* PA

County: Salem

Genus-species: *Oplomus ebulinus* PR  
*Pediobius foveolatus* PA

County: Somerset

Genus-species: *Pediobius foveolatus* PA

County: Sussex

Genus-species: *Glyptapanteles flavicoxis* PA

County: Warren

Genus-species: *Glyptapanteles flavicoxis* PA  
*Peristenus adelphocoridis* PA  
*Peristenus digoneutis* PA  
*Peristenus stygicus* PA

**State: NM**

County: Chaves

Genus-species: *Oomyzus incertus* PA

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---

**State: NM (continued)**

County: Dona Ana

Genus-species: *Microctonus aethiopoides* PA  
*Oomyzus incertus* PA

County: Eddy

Genus-species: *Oomyzus incertus* PA

**State: NV**

County: Clark

Genus-species: *Chalicodoma nigripes* PO

County: Lander

Genus-species: *Rhinocyllus conicus* WE

**State: NY**

County: Clinton

Genus-species: *Pholetesor pedias* PA

County: Columbia

Genus-species: *Pholetesor pedias* PA

County: Essex

Genus-species: *Urophora cardui* WE  
*Urophora quadrifasciata* WE

County: Franklin

Genus-species: *Hyles euphorbiae* WE

County: Hamilton

Genus-species: *Hyles euphorbiae* WE

County: Jefferson

Genus-species: *Hyles euphorbiae* WE

County: St Lawrence

Genus-species: *Hyles euphorbiae* WE

**State: NY (continued)**

County: Suffolk

Genus-species: *Edovum puttleri* PA  
*Osmia cornifrons* PO

County: Tompkins

Genus-species: *Edovum puttleri* PA  
*Urophora quadrifasciata* WE

County: Ulster

Genus-species: *Pholetesor pedias* PA

County: Warren

Genus-species: *Urophora affinis* WE  
*Urophora quadrifasciata* WE

County: Wayne

Genus-species: *Osmia cornifrons* PO

**State: OH**

County: Ashland

Genus-species: *Istocheta aldrichi* PA

County: Fayette

Genus-species: *Pediobius foveolatus* PA

County: Franklin

Genus-species: *Osmia cornifrons* PO

County: Highland

Genus-species: *Pediobius foveolatus* PA

County: Morrow

Genus-species: *Osmia cornifrons* PO

County: Perry

Genus-species: *Osmia cornifrons* PO

County: Pickaway

Genus-species: *Pediobius foveolatus* PA

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---

State: OH  
County: Pike  
Genus-species: *Pediobius foveolatus* PA

County: Ross  
Genus-species: *Pediobius foveolatus* PA

County: Wayne  
Genus-species: *Bathyplectes anurus* PA  
*Istocheta aldrichi* PA

State: OK  
County:  
Genus-species: *Bathyplectes curculionis* PA  
*Microctonus colesi* PA

County: Alfalfa  
Genus-species: *Bathyplectes anurus* PA  
*Microctonus aethiopoides* PA  
*Microctonus colesi* PA

County: Beckham  
Genus-species: *Bathyplectes anurus* PA  
*Dibrachoides dynastes* PA  
*Microctonus aethiopoides* PA  
*Microctonus colesi* PA  
*Oomyzus incertus* PA

County: Creek  
Genus-species: *Bathyplectes anurus* PA  
*Microctonus aethiopoides* PA  
*Microctonus colesi* PA

County: Custer  
Genus-species: *Bathyplectes anurus* PA  
*Microctonus aethiopoides* PA  
*Microctonus colesi* PA

County: Ellis  
Genus-species: *Bathyplectes anurus* PA  
*Microctonus aethiopoides* PA

State: OK (continued)  
County: Grady  
Genus-species: *Dibrachoides dynastes* PA  
*Oomyzus incertus* PA

County: Grant  
Genus-species: *Bathyplectes anurus* PA  
*Microctonus aethiopoides* PA

County: Harper  
Genus-species: *Bathyplectes anurus* PA  
*Microctonus aethiopoides* PA

County: Kiowa  
Genus-species: *Bathyplectes anurus* PA  
*Microctonus aethiopoides* PA  
*Microctonus colesi* PA

County: Logan  
Genus-species: *Bathyplectes anurus* PA

County: Muskogee  
Genus-species: *Bathyplectes anurus* PA  
*Coccinella septempunctata* PR

County: Nowata  
Genus-species: *Bathyplectes anurus* PA

County: Osage  
Genus-species: *Bathyplectes anurus* PA

County: Ottawa  
Genus-species: *Bathyplectes anurus* PA

County: Pawnee  
Genus-species: *Bathyplectes anurus* PA

County: Roger Mills  
Genus-species: *Bathyplectes anurus* PA  
*Microctonus aethiopoides* PA  
*Microctonus colesi* PA

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---

**State: OK (continued)**

County: Texas

Genus-species: *Bathyplectes anurus* PA

County: Woods

Genus-species: *Bathyplectes anurus* PA

*Microctonus aethiopoides* PA

*Microctonus colesi* PA

County: Woodward

Genus-species: *Bathyplectes anurus* PA

*Dibrachoides dynastes* PA

*Microctonus aethiopoides* PA

*Oomyzus incertus* PA

**State: OR**

County:

Genus-species: *Botanophila seneciella* WE

*Longitarsus jacobaeae* WE

*Tyria jacobaeae* WE

*Urophora affinis* WE

*Urophora quadrifasciata* WE

County: Benton

Genus-species: *Oomyzus incertus* PA

*Trioxys tenuicaudus* PA

*Urophora cardui* WE

County: Clackamas

Genus-species: *Osmia cornifrons* PO

County: Deschutes

Genus-species: *Calophasia lunula* WE

*Sphenoptera jugoslavica* WE

County: Douglas

Genus-species: *Rhinocyllus conicus* WE

County: Grant

Genus-species: *Microlarinus lareynii* WE

*Microlarinus lypriformis* WE

**State: OR (continued)**

County: Jackson

Genus-species: *Microlarinus lareynii* WE

*Microlarinus lypriformis* WE

*Osmia cornifrons* PO

County: Lake

Genus-species: *Phrydiuchus tau* WE

County: Linn

Genus-species: *Microctonus aethiopoides* PA

*Oomyzus incertus* PA

*Osmia cornifrons* PO

County: Malheur

Genus-species: *Microlarinus lareynii* WE

*Microlarinus lypriformis* WE

*Osmia cornifrons* PO

County: Marion

Genus-species: *Hadroplontus litura* WE

County: Polk

Genus-species: *Apion fuscirostre* WE

County: Wasco

Genus-species: *Calophasia lunula* WE

County: Washington

Genus-species: *Osmia cornifrons* PO

County: Wheeler

Genus-species: *Microlarinus lareynii* WE

*Microlarinus lypriformis* WE

**State: PA**

County: Adams

Genus-species: *Glyptapanteles flavicoxis* PA

County: Bedford

Genus-species: *Glyptapanteles flavicoxis* PA

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---

**State: PA (continued)**

County: Berks

Genus-species: *Glyptapanteles flavicoxis* PA

County: Blair

Genus-species: *Glyptapanteles flavicoxis* PA

County: Bucks

Genus-species: *Glyptapanteles flavicoxis* PA

*Osmia cornifrons* PO

County: Cameron

Genus-species: *Glyptapanteles flavicoxis* PA

County: Carbon

Genus-species: *Glyptapanteles flavicoxis* PA

County: Centre

Genus-species: *Glyptapanteles flavicoxis* PA

County: Chester

Genus-species: *Glyptapanteles flavicoxis* PA

*Meigenia mutabilis* PA

*Tetrastichus crioceridis* PA

County: Clearfield

Genus-species: *Glyptapanteles flavicoxis* PA

County: Clinton

Genus-species: *Glyptapanteles flavicoxis* PA

County: Columbia

Genus-species: *Glyptapanteles flavicoxis* PA

County: Cumberland

Genus-species: *Glyptapanteles flavicoxis* PA

County: Dauphin

Genus-species: *Glyptapanteles flavicoxis* PA

County: Elk

Genus-species: *Glyptapanteles flavicoxis* PA

**State: PA (continued)**

County: Franklin

Genus-species: *Glyptapanteles flavicoxis* PA

*Osmia cornifrons* PO

County: Fulton

Genus-species: *Cotesia melanoscelus* PA

*Glyptapanteles flavicoxis* PA

*Glyptapanteles indiensis* PA

*Steinernema feltiae* PA

County: Huntingdon

Genus-species: *Glyptapanteles flavicoxis* PA

County: Jefferson

Genus-species: *Glyptapanteles flavicoxis* PA

County: Lackawanna

Genus-species: *Glyptapanteles flavicoxis* PA

County: Lancaster

Genus-species: *Glyptapanteles flavicoxis* PA

County: Lawrence

Genus-species: *Osmia cornifrons* PO

County: Lebanon

Genus-species: *Glyptapanteles flavicoxis* PA

*Osmia cornifrons* PO

County: Luzerne

Genus-species: *Glyptapanteles flavicoxis* PA

County: Lycoming

Genus-species: *Glyptapanteles flavicoxis* PA

County: Monroe

Genus-species: *Glyptapanteles flavicoxis* PA

County: Montour

Genus-species: *Glyptapanteles flavicoxis* PA

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---

**State: PA (continued)**

County: Northampton

Genus-species: *Glyptapanteles flavicoxis* PA

County: Northumberland

Genus-species: *Glyptapanteles flavicoxis* PA

County: Perry

Genus-species: *Cotesia melanoscelus* PA

*Glyptapanteles flavicoxis* PA

*Glyptapanteles indiensis* PA

*Hyposoter lymantriae* PA

County: Pike

Genus-species: *Glyptapanteles flavicoxis* PA

County: Potter

Genus-species: *Glyptapanteles flavicoxis* PA

County: Schuylkill

Genus-species: *Glyptapanteles flavicoxis* PA

County: Snyder

Genus-species: *Glyptapanteles flavicoxis* PA

County: Somerset

Genus-species: *Glyptapanteles flavicoxis* PA

County: Susquehanna

Genus-species: *Glyptapanteles flavicoxis* PA

County: Tioga

Genus-species: *Glyptapanteles flavicoxis* PA

County: Wayne

Genus-species: *Aleiodes lymantriae* PA

*Glyptapanteles flavicoxis* PA

County: Wyoming

Genus-species: *Glyptapanteles flavicoxis* PA

**State: PA (continued)**

County: York

Genus-species: *Glyptapanteles flavicoxis* PA

**State: PW**

County: Peleliou I

Genus-species: *Oryctes-baculovirus* MI

**State: SC**

County:

Genus-species: *Bathyplectes curculionis* PA

*Microctonus colesi* PA

County: Aiken

Genus-species: *Encarsia lahorensis* PA

County: Allendale

Genus-species: *Encarsia lahorensis* PA

County: Anderson

Genus-species: *Bathyplectes anurus* PA

County: Bamberg

Genus-species: *Encarsia lahorensis* PA

County: Barnwell

Genus-species: *Agasicles hygrophila* WE

*Encarsia lahorensis* PA

*Microplitis demolitor* PA

County: Beaufort

Genus-species: *Encarsia lahorensis* PA

County: Berkeley

Genus-species: *Encarsia lahorensis* PA

County: Charleston

Genus-species: *Encarsia lahorensis* PA

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---

State: SC (continued)

County: Cherokee

Genus-species: *Bathyplectes anurus* PA  
*Microctonus aethiopoides* PA  
*Microctonus colesi* PA

County: Chester

Genus-species: *Encarsia lahorensis* PA

County: Chesterfield

Genus-species: *Encarsia lahorensis* PA

County: Colleton

Genus-species: *Encarsia lahorensis* PA

County: Darlington

Genus-species: *Agasicles hygrophila* WE  
*Encarsia lahorensis* PA  
*Microplitis demolitor* PA  
*Palexorista laxa* PA

County: Dillon

Genus-species: *Encarsia lahorensis* PA

County: Dorchester

Genus-species: *Encarsia lahorensis* PA

County: Edgefield

Genus-species: *Encarsia lahorensis* PA

County: Fairfield

Genus-species: *Encarsia lahorensis* PA

County: Florence

Genus-species: *Encarsia lahorensis* PA

County: Georgetown

Genus-species: *Agasicles hygrophila* WE  
*Encarsia lahorensis* PA

State: SC (continued)

County: Greenville

Genus-species: *Bathyplectes anurus* PA  
*Microctonus aethiopoides* PA  
*Microctonus colesi* PA

County: Greenwood

Genus-species: *Bathyplectes anurus* PA

County: Hampton

Genus-species: *Encarsia lahorensis* PA

County: Horry

Genus-species: *Agasicles hygrophila* WE  
*Encarsia lahorensis* PA

County: Jasper

Genus-species: *Encarsia lahorensis* PA

County: Kershaw

Genus-species: *Encarsia lahorensis* PA

County: Lexington

Genus-species: *Encarsia lahorensis* PA

County: Marion

Genus-species: *Encarsia lahorensis* PA

County: Newberry

Genus-species: *Bathyplectes anurus* PA  
*Encarsia lahorensis* PA  
*Microctonus aethiopoides* PA

County: Orangeburg

Genus-species: *Bathyplectes anurus* PA  
*Encarsia lahorensis* PA  
*Microctonus aethiopoides* PA

County: Richland

Genus-species: *Encarsia lahorensis* PA

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---

**State: SC (continued)**

County: Saluda  
Genus-species: *Bathyplectes anurus* PA  
*Microctonus aethiopoides* PA

County: Sumter

Genus-species: *Agasicles hygrophila* WE  
*Encarsia lahorensis* PA

**State: SD**

County:  
Genus-species: *Bathyplectes curculionis* PA  
*Microctonus colesi* PA

County: Fall River

Genus-species: *Bathyplectes anurus* PA  
*Microctonus aethiopoides* PA

County: Lyman

Genus-species: *Bathyplectes anurus* PA  
*Microctonus aethiopoides* PA

**State: TN**

County:  
Genus-species: *Bathyplectes curculionis* PA  
*Microctonus colesi* PA

County: Bedford

Genus-species: *Bathyplectes anurus* PA

County: Bradley

Genus-species: *Bathyplectes anurus* PA

County: Carroll

Genus-species: *Bathyplectes anurus* PA

County: Clay

Genus-species: *Bathyplectes anurus* PA

**State: TN (continued)**

County: Coffee  
Genus-species: *Bathyplectes anurus* PA

County: Cumberland  
Genus-species: *Bathyplectes anurus* PA

County: Davidson  
Genus-species: *Bathyplectes anurus* PA

County: Dickson  
Genus-species: *Bathyplectes anurus* PA

County: Dyer  
Genus-species: *Bathyplectes anurus* PA

County: Fayette  
Genus-species: *Bathyplectes anurus* PA

County: Fentress  
Genus-species: *Bathyplectes anurus* PA

County: Franklin  
Genus-species: *Bathyplectes anurus* PA

County: Giles  
Genus-species: *Bathyplectes anurus* PA  
*Microctonus aethiopoides* PA  
*Microctonus colesi* PA  
*Oomyzus incertus* PA

County: Greene  
Genus-species: *Istocheta aldrichi* PA

County: Henry  
Genus-species: *Bathyplectes anurus* PA

County: Knox  
Genus-species: *Istocheta aldrichi* PA

County: Lauderdale  
Genus-species: *Bathyplectes anurus* PA

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**State: TN (continued)**

County: Lawrence

Genus-species: *Bathyplectes anurus* PA

County: Lincoln

Genus-species: *Bathyplectes anurus* PA

County: Loudon

Genus-species: *Bathyplectes anurus* PA

County: Macon

Genus-species: *Bathyplectes anurus* PA

County: Marshall

Genus-species: *Bathyplectes anurus* PA

County: Maury

Genus-species: *Bathyplectes anurus* PA

County: McMinn

Genus-species: *Bathyplectes anurus* PA

County: Montgomery

Genus-species: *Bathyplectes anurus* PA

County: Obion

Genus-species: *Bathyplectes anurus* PA

County: Overton

Genus-species: *Bathyplectes anurus* PA

County: Putnam

Genus-species: *Bathyplectes anurus* PA

County: Robertson

Genus-species: *Bathyplectes anurus* PA

County: Rutherford

Genus-species: *Bathyplectes anurus* PA

County: Shelby

Genus-species: *Bathyplectes anurus* PA

**State: TN (continued)**

County: Smith

Genus-species: *Bathyplectes anurus* PA

County: Sumner

Genus-species: *Bathyplectes anurus* PA

County: Tipton

Genus-species: *Bathyplectes anurus* PA

County: Warren

Genus-species: *Bathyplectes anurus* PA

County: White

Genus-species: *Bathyplectes anurus* PA

County: Williamson

Genus-species: *Bathyplectes anurus* PA

County: Wilson

Genus-species: *Bathyplectes anurus* PA

**State: TX**

County: LRGV (See Section IA, Note 117)

Genus-species: *Allorhogas pyralophagus* PA

*Pediobius furvus* PA

*Rhaconotus roslinensis* PA

County: Bailey

Genus-species: *Dibrachoides dynastes* PA

*Oomyzus incertus* PA

County: Bee

Genus-species: *Bathyplectes anurus* PA

*Microctonus aethiopoides* PA

*Oomyzus incertus* PA

County: Bell

Genus-species: *Amblyseius* sp. PR

*Phytoseiulus persimilis* PR

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---

**State: TX (continued)**

County: Brazos

Genus-species: *Euoniticellus intermedius* OT  
*Onitis alexis* OT

County: Burleson

Genus-species: *Catolaccus grandis* PA  
*Heterospilus annulatus* PA  
*Heterospilus megalopus* PA

County: Chambers

Genus-species: *Agasicles hygrophila* WE  
*Amynothrips andersoni* WE

County: Gonzales

Genus-species: *Neochetina bruchi* WE  
*Neochetina eichhorniae* WE

County: Grimes

Genus-species: *Euoniticellus intermedius* OT  
*Onitis alexis* OT  
*Onthophagus bonasus* OT  
*Onthophagus taurus* OT

County: Hale

Genus-species: *Oomyzus incertus* PA

County: Jasper

Genus-species: *Agasicles hygrophila* WE  
*Amynothrips andersoni* WE

County: Jefferson

Genus-species: *Agasicles hygrophila* WE  
*Amynothrips andersoni* WE  
*Sameodes albifutalis* WE

County: Liberty

Genus-species: *Encarsia lahorensis* PA

County: Live Oak

Genus-species: *Neochetina bruchi* WE

**State: TX (continued)**

County: Lubbock

Genus-species: *Aphidius colemani* PA

County: Montgomery

Genus-species: *Encarsia lahorensis* PA

County: Nacogdoches

Genus-species: *Encarsia lahorensis* PA

County: Nueces

Genus-species: *Encarsia lahorensis* PA

County: Potter

Genus-species: *Hippodamia variegata* PR  
*Lioadalia flavomaculata* PR

County: Victoria

Genus-species: *Encarsia lahorensis* PA

County: Washington

Genus-species: *Bathyplectes anurus* PA  
*Microctonus aethiopoides* PA  
*Oomyzus incertus* PA

County: Wilbarger

Genus-species: *Dibrachoides dynastes* PA  
*Microctonus aethiopoides* PA  
*Oomyzus incertus* PA

**State: UT**

County: Cache

Genus-species: *Microctonus aethiopoides* PA  
*Oomyzus incertus* PA  
*Osmia cornuta* PO

County: Davis

Genus-species: *Rhinocyllus conicus* WE

County: Emery

Genus-species: *Rhinocyllus conicus* WE

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State: UT (continued)

County: Salt Lake

Genus-species: *Rhinocyllus conicus* WE

County: Sanpete

Genus-species: *Rhinocyllus conicus* WE

County: Utah

Genus-species: *Rhinocyllus conicus* WE

State: VA

County:

Genus-species: *Diaparsis temporalis* PA  
*Lemophagus curtus* PA  
*Tetrastrichus julis* PA

County: Accomack

Genus-species: *Edovum puttleri* PA  
*Pediobius foveolatus* PA

County: Albemarle

Genus-species: *Aleiodes lymantriae* PA

County: Alexandria

Genus-species: *Compsilura concinnata* PA  
*Glyptapanteles flavicoxis* PA  
*Meteorus pulchricornis* PA

County: Arlington

Genus-species: *Compsilura concinnata* PA  
*Glyptapanteles flavicoxis* PA  
*Meteorus pulchricornis* PA

County: Bland

Genus-species: *Hyles euphorbiae* WE

County: Caroline

Genus-species: *Pediobius foveolatus* PA

County: Charles City

Genus-species: *Pediobius foveolatus* PA

State: VA (continued)

County: Chesapeake

Genus-species: *Compsilura concinnata* PA  
*Meteorus pulchricornis* PA  
*Pediobius foveolatus* PA

County: Chesterfield

Genus-species: *Compsilura concinnata* PA

County: Clarke

Genus-species: *Compsilura concinnata* PA  
*Glyptapanteles flavicoxis* PA  
*Meteorus pulchricornis* PA  
*Trichosirocalus horridus* WE

County: Culpeper

Genus-species: *Compsilura concinnata* PA  
*Meteorus pulchricornis* PA  
*Trichosirocalus horridus* WE

County: Dinwiddie

Genus-species: *Pediobius foveolatus* PA

County: Essex

Genus-species: *Pediobius foveolatus* PA

County: Fairfax

Genus-species: *Compsilura concinnata* PA  
*Glyptapanteles flavicoxis* PA  
*Meteorus pulchricornis* PA

County: Fauquier

Genus-species: *Compsilura concinnata* PA  
*Meteorus pulchricornis* PA

County: Frederick

Genus-species: *Compsilura concinnata* PA  
*Meteorus pulchricornis* PA

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**State: VA (continued)**

County: Gloucester

Genus-species: *Compsilura concinnata* PA  
*Meteorus pulchricornis* PA  
*Pediobius foveolatus* PA

County: Grayson

Genus-species: *Trichosirocalus horridus* WE

County: Hampton

Genus-species: *Compsilura concinnata* PA  
*Meteorus pulchricornis* PA

County: Hanover

Genus-species: *Compsilura concinnata* PA  
*Meteorus pulchricornis* PA  
*Pediobius foveolatus* PA

County: Henrico

Genus-species: *Pediobius foveolatus* PA

County: Isle of Wight

Genus-species: *Pediobius foveolatus* PA

County: James City

Genus-species: *Compsilura concinnata* PA  
*Meteorus pulchricornis* PA

County: King William

Genus-species: *Pediobius foveolatus* PA

County: King and Queen

Genus-species: *Pediobius foveolatus* PA

County: Lancaster

Genus-species: *Pediobius foveolatus* PA

County: Loudoun

Genus-species: *Aleiodes lymantriae* PA  
*Compsilura concinnata* PA  
*Glyptapanteles flavicoxis* PA  
*Meteorus pulchricornis* PA

**State: VA (continued)**

County: Mathews

Genus-species: *Pediobius foveolatus* PA

County: Middlesex

Genus-species: *Pediobius foveolatus* PA

County: New Kent

Genus-species: *Compsilura concinnata* PA  
*Pediobius foveolatus* PA

County: Newport News

Genus-species: *Compsilura concinnata* PA  
*Meteorus pulchricornis* PA

County: Norfolk

Genus-species: *Compsilura concinnata* PA  
*Meteorus pulchricornis* PA

County: Northampton

Genus-species: *Pediobius foveolatus* PA

County: Northumberland

Genus-species: *Pediobius foveolatus* PA

County: Prince George

Genus-species: *Pediobius foveolatus* PA

County: Prince William

Genus-species: *Compsilura concinnata* PA  
*Meteorus pulchricornis* PA

County: Rappahanock

Genus-species: *Compsilura concinnata* PA  
*Meteorus pulchricornis* PA

County: Richmond

Genus-species: *Compsilura concinnata* PA  
*Meteorus pulchricornis* PA  
*Pediobius foveolatus* PA

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**State: VA (continued)**

County: Rockingham

Genus-species: *Trichosirocalus horridus* WE

County: Russell

Genus-species: *Trichosirocalus horridus* WE

County: Shenandoah

Genus-species: *Trichosirocalus horridus* WE

County: Smyth

Genus-species: *Trichosirocalus horridus* WE

County: Southampton

Genus-species: *Pediobius foveolatus* PA

County: Spotsylvania

Genus-species: *Compsilura concinnata* PA

County: Stafford

Genus-species: *Compsilura concinnata* PA  
*Meteorus pulchricornis* PA

County: Virginia Beach

Genus-species: *Compsilura concinnata* PA  
*Meteorus pulchricornis* PA  
*Pediobius foveolatus* PA

County: Warren

Genus-species: *Trichosirocalus horridus* WE

County: Washington

Genus-species: *Rhinocyllus conicus* WE  
*Trichosirocalus horridus* WE

County: Westmoreland

Genus-species: *Compsilura concinnata* PA  
*Meteorus pulchricornis* PA  
*Pediobius foveolatus* PA

County: Wythe

Genus-species: *Trichosirocalus horridus* WE

**State: VA (continued)**

County: York

Genus-species: *Compsilura concinnata* PA  
*Meteorus pulchricornis* PA

**State: WA**

County: Ferry

Genus-species: *Chrysolina quadrigemina* WE  
*Rhinocyllus conicus* WE  
*Urophora cardui* WE

County: Garfield

Genus-species: *Diadegma laricinellum* PA

County: Grant

Genus-species: *Urophora cardui* WE

County: Grays Harbor

Genus-species: *Urophora cardui* WE

County: Klickitat

Genus-species: *Aceria chondrillae* WE  
*Anthocoris nemorum* PR  
*Chrysoperla carnea* PR  
*Prionomitus mitratus* PA  
*Puccinia chondrillina* MI  
*Urophora cardui* WE  
*Urophora stylata* WE

County: Okanogan

Genus-species: *Rhinocyllus conicus* WE  
*Sphenoptera jugoslavica* WE  
*Urophora cardui* WE

County: San Juan

Genus-species: *Urophora cardui* WE

County: Spokane

Genus-species: *Aceria chondrillae* WE  
*Calophasia lunula* WE  
*Puccinia chondrillina* MI

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**State: WA (continued)**

County: Stevens

Genus-species: *Aceria chondrillae* WE  
*Puccinia chondrillina* MI  
*Rhinocyllus conicus* WE

County: Walla Walla

Genus-species: *Chrysolina quadrigemina* WE  
*Rhinocyllus conicus* WE  
*Urophora cardui* WE

County: Whitman

Genus-species: *Aceria chondrillae* WE  
*Chrysolina quadrigemina* WE  
*Puccinia chondrillina* MI  
*Urophora cardui* WE  
*Urophora stylata* WE  
*Zeuxidiplosis giardi* WE

County: Yakima

Genus-species: *Anthocoris nemorum* PR  
*Chrysolina quadrigemina* WE  
*Edovum puttleri* PA  
*Menochilus sexmaculatus* PR  
*Prionomitus mitratus* PA

**State: WI**

County:

Genus-species: *Bathyplectes curculionis* PA  
*Microctonus colesi* PA

County: Adams

Genus-species: *Bathyplectes anurus* PA

County: Barron

Genus-species: *Bathyplectes anurus* PA

County: Brown

Genus-species: *Bathyplectes anurus* PA

**State: WI (continued)**

County: Buffalo

Genus-species: *Bathyplectes anurus* PA

County: Chippewa

Genus-species: *Bathyplectes anurus* PA

County: Clark

Genus-species: *Bathyplectes anurus* PA

County: Columbia

Genus-species: *Bathyplectes anurus* PA

County: Crawford

Genus-species: *Bathyplectes anurus* PA

County: Dane

Genus-species: *Bathyplectes anurus* PA

County: Dodge

Genus-species: *Bathyplectes anurus* PA

County: Door

Genus-species: *Bathyplectes anurus* PA

County: Dunn

Genus-species: *Bathyplectes anurus* PA

County: Florence

Genus-species: *Bathyplectes anurus* PA

County: Fond du Lac

Genus-species: *Bathyplectes anurus* PA

*Dibrachoides dynastes* PA

County: Grant

Genus-species: *Bathyplectes anurus* PA

County: Green

Genus-species: *Bathyplectes anurus* PA

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**State: WI (continued)**

County: Iowa

Genus-species: *Bathyplectes anurus* PA  
*Dibrachoides dynastes* PA

County: Jefferson

Genus-species: *Bathyplectes anurus* PA

County: Juneau

Genus-species: *Bathyplectes anurus* PA

County: Lafayette

Genus-species: *Bathyplectes anurus* PA

County: Manitowoc

Genus-species: *Bathyplectes anurus* PA

County: Marathon

Genus-species: *Bathyplectes anurus* PA

County: Marinette

Genus-species: *Bathyplectes anurus* PA

County: Monroe

Genus-species: *Bathyplectes anurus* PA

County: Oconto

Genus-species: *Bathyplectes anurus* PA

County: Outagamie

Genus-species: *Bathyplectes anurus* PA

County: Pierce

Genus-species: *Bathyplectes anurus* PA

County: Polk

Genus-species: *Bathyplectes anurus* PA

County: Portage

Genus-species: *Bathyplectes anurus* PA

**State: WI (continued)**

County: Richland

Genus-species: *Bathyplectes anurus* PA

County: Rock

Genus-species: *Bathyplectes anurus* PA

County: Sauk

Genus-species: *Bathyplectes anurus* PA

County: Shawano

Genus-species: *Bathyplectes anurus* PA

County: Sheboygan

Genus-species: *Bathyplectes anurus* PA

County: St Croix

Genus-species: *Bathyplectes anurus* PA

County: Trempealeau

Genus-species: *Bathyplectes anurus* PA

County: Vernon

Genus-species: *Bathyplectes anurus* PA

County: Washington

Genus-species: *Bathyplectes anurus* PA

County: Waukesha

Genus-species: *Bathyplectes anurus* PA

County: Waushara

Genus-species: *Bathyplectes anurus* PA

**State: WV**

County: Berkeley

Genus-species: *Glyptapanteles flavicoxis* PA

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**State: WV (continued)**

County: Jefferson

Genus-species: *Glyptapanteles flavicoxis* PA  
*Osmia cornifrons* PO  
*Pediobius foveolatus* PA

County: Morgan

Genus-species: *Glyptapanteles flavicoxis* PA

**State: WY**

County: Converse

Genus-species: *Rhinocyllus conicus* WE

County: Crook

Genus-species: *Rhinocyllus conicus* WE  
*Urophora cardui* WE

County: Fremont

Genus-species: *Microlarinus lareynii* WE  
*Microlarinus lypriformis* WE  
*Oomyzus incertus* PA

County: Lincoln

Genus-species: *Rhinocyllus conicus* WE

County: Platte

Genus-species: *Oomyzus incertus* PA

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Allorhogas pyralophagus Marsh Hymenoptera Braconidae	Eoreuma loftini (Dyar) Mexican rice borer		Mexico	Trinidad & Tobago TAMU-JWS-83-0003	200 C
	SAME		Mexico	Trinidad & Tobago TAMU-JWS-83-0010	26 PHL&P
Aphidius smithi Sharma & Subba Rao Hymenoptera Aphidiidae	Acyrtosiphon pisum (Harris) pea aphid		USA-CA	Canada UCB-KSH-83-0092	? MU
Aphthona flava Guillebeau Coleoptera Chrysomelidae	Euphorbia esula Linnaeus leafy spurge		Italy, Tuscany	Canada BCWLE-83-0009	1260e A
Aphytis lingnanensis Compere Hymenoptera Aphelinidae	Aonidiella aurantii (Maskell) California red scale		China	USSR UCR-RFL-83-0010	? PHN
Aphytis melinus DeBach Hymenoptera Aphelinidae	Aonidiella aurantii (Maskell) California red scale		India Pakistan	USSR UCR-RFL-83-0009	? PHN
Beauveria bassiana (Balsamo) Vuillemin Moniliales	Nitidulid sp.		Australia (ARSEF #325)	Australia IPRU-RAH-83-0003	CULT

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Beauveria bassiana (Balsamo) Vuillemin Moniliales	Chilo plejadellus[?] Zincken "rice stem borer"	Australia (ARSEF #326) NOTE: 157	Australia IPRU-RAH-83-0004	CULT
	Acridid sp.	Australia (ARSEF #356)	Australia IPRU-RAH-83-0005	CULT
	Nilaparvata lugens (Stål) brown planthopper	China (PRC) (ARSEF #709)	United Kingdom IPRU-RAH-83-0015	CULT
	Malacosoma americanum (Fabricius) eastern tent caterpillar	USA-MA (ARSEF #1)	China (PRC) IPRU-RAH-83-0018	CULT
	Lymantria dispar (Linnaeus) gypsy moth	USSR (ARSEF #155)	China (PRC) IPRU-RAH-83-0022	CULT
	?	Czechoslovakia (ARSEF #159)	China (PRC) IPRU-RAH-83-0023	CULT
	SAME	USSR (ARSEF #288)	China (PRC) IPRU-RAH-83-0025	CULT
	SAME	Brazil (ARSEF #295)	China (PRC) IPRU-RAH-83-0026	CULT
	Lymantria dispar (Linnaeus) gypsy moth	Rumania (ARSEF #299)	China (PRC) IPRU-RAH-83-0027	CULT

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Beauveria bassiana (Balsamo) Vuillemin Moniliales	?	Japan (ARSEF #302)	China (PRC) IPRU-RAH-83-0028	CULT
	Cerambycid sp.	Mexico (ARSEF #319)	China (PRC) IPRU-RAH-83-0029	CULT
	Chilo plejadellus[?] Zincken "rice stem borer"	Australia (ARSEF #326) NOTE: 157	China (PRC) IPRU-RAH-83-0030	CULT
	?	Poland (ARSEF #333)	China (PRC) IPRU-RAH-83-0031	CULT
	Chalcodermus aeneus Bohemian	USA-GA (ARSEF #337)	China (PRC) IPRU-RAH-83-0032	CULT
	Leptinotarsa decemlineata (Say) Colorado potato beetle	Germany, West (ARSEF #340)	China (PRC) IPRU-RAH-83-0033	CULT
	Cydia pomonella (Linnaeus) codling moth	Yugoslavia (ARSEF #503)	China (PRC) IPRU-RAH-83-0038	CULT
	Pachybrachis "pallicornis"	Malaysia (ARSEF #547)	China (PRC) IPRU-RAH-83-0039	CULT
	?	USSR (ARSEF #288)	Brazil IPRU-RAH-83-0045	CULT

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Beauveria bassiana (Balsamo) Vuillemin Moniliales	Ostrinia nubilalis (Hübner) European corn borer	China (PRC) (ARSEF #501)	Brazil IPRU-RAH-83-0048	CULT
	Leptocoris a sp.	Indonesia-Java (ARSEF #566)	Brazil IPRU-RAH-83-0050	CULT
	?	USSR (ARSEF #283)	Italy IPRU-RAH-83-0084	CULT
	Ostrinia nubilalis (Hübner) European corn borer	China (PRC) (ARSEF #501)	Italy IPRU-RAH-83-0085	CULT
Beauveria brongniartii (Saccardo) Petch Moniliales	Nephrotettix cincticeps (Uhler)	China (PRC) (ARSEF #656)	United Kingdom IPRU-RAH-83-0013	CULT
Blepharipa pratensis (Meigen) Diptera Tachinidae	Lymantria dispar (Linnaeus) gypsy moth	USA, CT	China (PRC) FSHCT-TMO-83-0002	? P
Brachymeria intermedia (Nees) Hymenoptera Chalcididae	SAME	USA, CT	China (PRC) FSHCT-TMO-83-0001	? C
Chrysocharis osciniidis Ashmead Hymenoptera Eulophidae	Liriomyza spp. Agromyzid leafminers	USA-CA	United Kingdom HDA-83-2001	500e A

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Chrysocharis oscinidis Ashmead  Hymenoptera Eulophidae	Liriomyza spp.  Agromyzid leafminers	USA-CA	United Kingdom HDA-83-2003	760e A
	Liriomyza trifolii (Burgess) leafminer	USA-CA	Trinidad & Tobago UCREE-MPP-83-0003	100 P
	SAME	USA-CA	Netherlands UCREE-MPP-83-0007	? P
Chrysocharis caribea Boucek  Hymenoptera Eulophidae	Liriomyza spp.  Agromyzid leafminers	Trinidad & Tobago	United Kingdom HDA-83-1001	300e A
	SAME	Trinidad & Tobago	United Kingdom HDA-83-1003	500e A
Chrysonotomyia punctiventris (Crawford)  Hymenoptera Eulophidae	SAME	USA-CA	United Kingdom HDA-83-3001	500e A
	SAME	USA-CA	United Kingdom HDA-83-3003	500e A
Conidiobolus obscurus (Hall & Dunn) R. & K.  Entomophthorales Acylistaceae	Myzus persicae (Sulzer) green peach aphid	USA-ME (ARSEF #129)	Japan IPRU-RAH-83-0079	CULT

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Conidiobolus obscurus (Hall & Dunn) R. & K. Entomophthorales Ancylistaceae	Myzus persicae (Sulzer) green peach aphid	? (ARSEF #236)	Japan IPRU-RAH-83-0080	CULT
Conidiobolus thrombooides Drechsler Entomophthorales Ancylistaceae	Aphis gossypii Glover cotton/melon aphid	Israel (ARSEF #194)	Turkey IPRU-RAH-83-0010	CULT
	Myzus persicae (Sulzer) green peach aphid	USA-ME (ARSEF #2)	Japan IPRU-RAH-83-0077	CULT
	SAME	USA-ME (ARSEF #41)	Japan IPRU-RAH-83-0078	CULT
Cotesia melanoscelus (Ratzeburg) Hymenoptera Braconidae	Lymantria dispar (Linnaeus) gypsy moth	Korea, South (ROK)	Canada BIRL-RWF-83-0202	55 C
Culicinomyces claviger Couch, Romney & Rao Moniliiales	Anopheles quadrimaculatus Say common malaria mosquito	USA-NC (ARSEF #372)	Canada IPRU-RAH-83-0063	CULT
	SAME	USA-NC (ARSEF #582-585)	Canada IPRU-RAH-83-0064	CULT
Culicinomyces claviger Couch, Romney & Rao Moniliiales	Culicid sp.	USA-NC (ARSEF #706)	Canada IPRU-RAH-83-0065	CULT

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Diachasmimorpha tryoni (Cameron) Hymenoptera Braconidae	Ceratitis capitata (Wiedemann) Mediterranean fruit fly	USA-HI	Israel TFVRL-TTYW-83-0009	1200e A
Diglyphus intermedius (Girault) Hymenoptera Eulophidae	Liriomyza trifolii (Burgess) leafminer	USA-CA	Trinidad & Tobago UCREE-MPP-83-0002	65 A
	Liriomyza sp.	USA-FL	Trinidad & Tobago UFH-RMB-83-0001	1300e A
	Agromyzid leafminers			
Ditylenchus phyllobius (Thorne, 1934) Tylenchida Anguinidae	Solanum elaeagnifolium Cav. silverleaf nightshade	USA-TX	South Africa PPQMTX-PEP-83-0001	? J
Edovum puttleri Grissell Hymenoptera Eulophidae	Leptinotarsa undecimlineata (Stål)	Colombia	Canada BCIRL-BP-83-0001	130e P
	SAME	Colombia	Canada BCIRL-BP-83-0002	150 P
	SAME	Colombia	Netherlands BIIL-RFWS-83-0056	500e PHE

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Encarsia transvena (Timberlake) Hymenoptera Aphelinidae	Trialeurodes vaporariorum (Westwood) greenhouse whitefly	USA-HI	Israel HDA-83-0009	300e P
	SAME	USA-HI	Israel HDA-83-0011	? P
Entomophaga aulicae (Reichardt) Humber Entomophthorales Entomophthoraceae	Choristoneura fumiferana (Clemens) spruce budworm	USA-ME (ARSEF #168)	Brazil IPRU-RAH-83-0058	CULT
	Aedia leucomelas (Linnaeus) sweetpotato leafworm	Japan (ARSEF #198)	Brazil IPRU-RAH-83-0059	CULT
Furia pieris (Li & Humber) Humber Entomophthorales Entomophthoraceae	Pieris rapae (Linnaeus) imported cabbageworm	USA-NY (ARSEF #781)	China (PRC) IPRU-RAH-83-0040	CULT
	SAME	USA-NY (ARSEF #781)	Brazil IPRU-RAH-83-0061	CULT
Furia virescens (Thaxter) Humber Entomophthorales Entomophthoraceae	Noctuid sp.	Switzerland (ARSEF #470)	Brazil IPRU-RAH-83-0060	CULT

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Galendromus occidentalis (Nesbitt)  Parasitiformes Phytoseiidae	Tetranychus spp.	USA-CA, WA	China (ROC) HDA-83-1008	74 E
Ganaspidium utilis Beardsley  Hymenoptera Eucoilidae	Liriomyza spp.	USA-HI	United Kingdom HDA-83-6003	500e A
Glyptapanteles flavicoxis (Marsh)  Hymenoptera Braconidae	Agromyzid leafminers			
Lymantria obfuscata (Walker)	India		China (PRC) BIRL-PWS-83-0078	510 A, C
Habrobracon hebetor (Say)  Hymenoptera Braconidae	Plodia interpunctella (Hübner)  Indianmeal moth	USA-GA	UK, England SPIRDL-JWP-83-0002	? C
Halticoptera circulus (Walker)  Hymenoptera Pteromalidae	Liriomyza spp.	USA-CA	United Kingdom HDA-83-4001	500e A
	Agromyzid leafminers			
	SAME	USA-CA	United Kingdom HDA-83-4003	500e A
Heterorhabditis bacteriophora Poinar, 1976  Rhabditida Heterorhabditidae	Helicoverpa zea (Boddie)  corn earworm, bollworm	USA, NC	Canada NCSU-WMB-83-0001	? A, J

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Hirsutella citriformis Speare Moniliales	Nilaparvata lugens (Stål) brown planthopper	Philippines-Luzon (ARSEF #490)	United Kingdom IPRU-RAH-83-0044	CULT
	SAME	Philippines-Luzon (ARSEF #490)	United Kingdom IPRU-RAH-83-0067	CULT
Hirsutella gigantea Petch Moniliales	Choristoneura fumiferana (Clemens) spruce budworm	USA-ME (ARSEF #177)	China (PRC) IPRU-RAH-83-0024	CULT
Hirsutella thompsonii Fisher Moniliales	Phyllocoptrus oleivora (Ashmead) citrus rust mite	USA-FL (ARSEF #137)	Italy IPRU-RAH-83-0088	CULT
Hyposoter lymantriae Cushman Hymenoptera Ichneumonidae	Lymantria obfuscata (Walker)	India	Canada BIRL-RWF-83-0186	100 C
	SAME	India	Canada BIRL-RWF-83-0189	100 C
Lepidoptera sp. Lepidoptera	Baccharis pilularis consanguinea (DC.) Ktze. kidneywort baccharis	USA-CA	USA (Australian Sta) UCD-LEE-83-0005-B	130e L
Longitarsus jacobaeae (Waterhouse) Coleoptera Chrysomelidae	Senecio jacobaea Linnaeus tansy ragwort	USA-OR	New Zealand ORDA-RBH-83-0007	? A

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Lysiphlebus testaceipes (Cresson) Hymenoptera Aphidiidae	Schizaphis graminum (Rondani) greenbug	USA, OK	China (PRC) PSRL-RLB-83-0001-A	3000e MU
	SAME	USA, OK	China (PRC) PSRL-RLB-83-0001-B	3000e MU
	SAME	USA, OK	China (PRC) PSRL-RLB-83-0001-C	3000e MU
Metarhizium anisopliae (Metschnik.) Sorokin Moniliiales	Austracris guttulosa (Walker)	Australia (ARSEF #324)	Australia IPRU-RAH-83-0002	CULT
	Teleogryllus commodus (Walker)	Australia (ARSEF #435)	Australia IPRU-RAH-83-0007	CULT
	Teleogryllus commodus (Walker)	Australia (ARSEF #438)	Australia IPRU-RAH-83-0008	CULT
	?Dasygnathus sp.	Australia (ARSEF #472)	USA IPRU-RAH-83-0009	CULT
	Nilaparvata lugens (Stål) brown planthopper	Philippines-Luzon (ARSEF #486)	United Kingdom IPRU-RAH-83-0012	CULT
	Deois flavopicta (Stål)	Brazil (ARSEF #729)	United Kingdom IPRU-RAH-83-0016	CULT

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Metarhizium anisopliae (Metschnik.) Sorokin Moniliales	Nilaparvata lugens (Stål) brown planthopper	Philippines-Luzon (ARSEF #455)	China (PRC) IPRU-RAH-83-0035	CULT
	Mocis sp.	Colombia (ARSEF #587)	Brazil IPRU-RAH-83-0051	CULT
	Pentatomid sp.	Brazil (ARSEF #755)	Brazil IPRU-RAH-83-0053	CULT
	Deois flavopicta (Stål)	Brazil (ARSEF #925)	Israel IPRU-RAH-83-0062	CULT
	Deois flavopicta (Stål)	Brazil (ARSEF #925)	United Kingdom IPRU-RAH-83-0068	CULT
	Elaterid sp.	USA-NC (ARSEF #888)	United Kingdom IPRU-RAH-83-0069	CULT
	Deois flavopicta (Stål)	Brazil (ARSEF #925)	Singapore IPRU-RAH-83-0070	CULT
	Deois flavopicta (Stål)	Brazil (ARSEF #925)	Bolivia IPRU-RAH-83-0081	CULT
	Cercopid sp.	Brazil (ARSEF #1044)	Bolivia IPRU-RAH-83-0082	CULT
	SAME	Brazil (ARSEF #1045)	Bolivia IPRU-RAH-83-0083	CULT

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Metarhizium anisopliae (Metschnik.) Sorokin Moniliales	Nilaparvata lugens (Stål) brown planthopper		Philippines-Luzon (ARSEF #487)	Italy IPRU-RAH-83-0086	CULT
	Cercopid sp.		Brazil (ARSEF #550)	Italy IPRU-RAH-83-0087	CULT
	Deois flavopicta (Stål)		Brazil (ARSEF #925)	United Kingdom IPRU-RAH-83-0089	CULT
	Elaterid sp.		USA-NC (ARSEF #1094)	United Kingdom IPRU-RAH-83-0090	CULT
Microctonus stelleri Loan Hymenoptera Braconidae	Hypera postica (Gyllenhal) alfalfa weevil		France	Canada EPL-83-0022	5 C
	Anomala orientalis Waterhouse Oriental beetle		USA-HI	China (ROC) HDA-83-0016	65 A
Micromeriella marginella modesta (Smith) Hymenoptera Scoliidae	Heliothis (s.lat.) spp.		USA-AR	Egypt SRQF-83-0087	72 C
	Helicoverpa armigera (Hübner)		Australia	Egypt SRQF-83-0085	50 C

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Microplitis rufiventris Kokujev Hymenoptera Braconidae	Spodoptera littoralis (Boisduval)	Egypt	Egypt SRQF-83-2084	50 C
Neoseiulus californicus (McGregor) Acarina Phytoseiidae	Tetranychus spp.	USA-CA	China (ROC) HDA-83-2008	106 E
Neoseiulus fallacis (Garman) Parasitiformes Phytoseiidae	Panonychus ulmi (Koch) European red mite	USA, MI	China (PRC) MISU-MEW-83-0001	? A
	SAME	USA-MI	China (ROC) MISU-MEW-83-0002	? A
Nomuraea rileyi (Farlow) Samson Moniliales	Spodoptera sp.	Australia (ARSEF #323)	Australia IPRU-RAH-83-0001	CULT
	SAME	Australia (ARSEF #380)	Australia IPRU-RAH-83-0006	CULT
	SAME	Australia (ARSEF #358)	China (PRC) IPRU-RAH-83-0034	CULT
	Lymantria sp.	Philippines-Luzon (ARSEF #482)	China (PRC) IPRU-RAH-83-0037	CULT
	Spodoptera sp.	Australia (ARSEF #323)	Brazil IPRU-RAH-83-0046	CULT

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Nomuraea rileyi (Farlow) Samson Moniliiales	Lymantria sp.	Philippines-Luzon (ARSEF #481)	Brazil IPRU-RAH-83-0047	CULT
	Spodoptera exigua (Hübner) beet armyworm	Thailand (ARSEF #539)	Brazil IPRU-RAH-83-0049	CULT
	Bombyx mori (Linnaeus) silkworm	China (PRC) (ARSEF #711)	Brazil IPRU-RAH-83-0052	CULT
	Plathypena scabra (Fabricius) green cloverworm	USA-MO (ARSEF #762)	Brazil IPRU-RAH-83-0054	CULT
Oberea erythrocephala (Schrank) Coleoptera Cerambycidae	Euphorbia esula Linnaeus leafy spurge	Italy, Tuscany	Switzerland BCWLE-83-0007	100e A
Olla abdominalis (Say) Coleoptera Coccinellidae	arboreal aphids	USA-GA	France SFTNRL-WLT-83-0001-A	150 A
	SAME	USA-GA	France SFTNRL-WLT-83-0001-B	150 A
	SAME	USA-GA	France SFTNRL-WLT-83-0001-C	150 A

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Opius bruneipes Gahan Hymenoptera Braconidae	Liriomyza sp.  Agromyzid leafminers	USA-FL	Trinidad & Tobago UFH-RMB-83-0002	1050e A
Opius dimidiatus (Ashmead) Hymenoptera Braconidae	?	USA-CA	Trinidad & Tobago UCREE-MPP-83-0004	40 A
Opius dissitus Muesebeck Hymenoptera Braconidae	Liriomyza spp.  Agromyzid leafminers	USA-FL	United Kingdom HDA-83-5001	500e A
	SAME	USA-FL	United Kingdom HDA-83-5003	250e A
Osmia cornifrons (Radoszkowski) Hymenoptera Megachilidae	apple	USA, MD (orig. Japan)	Canada BIIL-SWTB-83-0032	200e A
Osmia lignaria Say Hymenoptera Megachilidae	SAME	USA-MD	Japan BIIL-SWTB-83-0068	1675e A
Paecilocomyces farinosus (Holm ex SFGray) B&S Moniliales	Malacosoma americanum (Fabricius) eastern tent caterpillar	USA-MA (ARSEF #3)	China (PRC) IPRU-RAH-83-0019	CULT

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Paecilocomyces farinosus (Holm ex SFGray) B&S Moniliales	Lymantria dispar (Linnaeus) gypsy moth	USA-PA (ARSEF #20)	China (PRC) IPRU-RAH-83-0020	CULT
Palexorista laxa (Curran) Diptera Tachinidae	Heliothis (s.lat.) sp.	Kenya	Egypt SRQF-83-0086	50 P
Pandora delphacis (Hori) Humber Entomophthorales Entomophthoraceae	Nephottix cincticeps (Uhler)	Philippines-Luzon (ARSEF #478)	United Kingdom IPRU-RAH-83-0011	CULT
	Nilaparvata lugens (Stål) brown planthopper	China (PRC) (ARSEF #665)	United Kingdom IPRU-RAH-83-0014	CULT
	Nephottix cincticeps (Uhler)	Philippines-Luzon (ARSEF #478)	China (PRC) IPRU-RAH-83-0036	CULT
Pandora neoaphidis (Rem. & Henn.) Humber Entomophthorales Entomophthoraceae	Aphidid sp.	Israel (ARSEF #78)	Japan IPRU-RAH-83-0073	CULT
	Aphis fabae Scopoli bean aphid	Poland (ARSEF #611)	Japan IPRU-RAH-83-0074	CULT

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Pediobius foveolatus (Crawford) Hymenoptera Eulophidae	Henosepilachna vigintioctopunctata (Fabricius) =Epilachna vigintioctopunctata	Japan, Honshu	Western Samoa BIRL-PWS-83-0077	418e A, MU
	?	India	Western Samoa BIRL-PWS-83-0201	30 MU
Pediobius furvus (Gahan) Hymenoptera Eulophidae	Chilo partellus (Swinhoe)	Kenya	Trinidad & Tobago TAMU-JWS-83-0005	10 PHP
	SAME	Kenya	Trinidad & Tobago TAMU-JWS-83-0009	56 PHP
Podisus maculiventris Say Heteroptera Pentatomidae	various Coleoptera & Lepidoptera	USA-TN	China (PRC) UTN-PLL-83-0001	150e E
Prochocerodes sp. Lepidoptera Geometridae	Baccharis pilularis pilularis DC. coyotebrush	USA-CA	USA (Australian Sta) UCD-LEE-83-0004-A	? L, P
Prochoerodes truxaliata (Guenée) Lepidoptera Geometridae	Baccharis pilularis pilularis DC. coyotebrush	USA-CA	USA (Australian Sta) UCD-LEE-83-0002	30e L

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Psyllalia incisi (Silvestri) Hymenoptera Braconidae	Dacus dorsalis Hendel Oriental fruit fly	USA-HI	Israel TFVRL-TTYW-83-0010	400 A
Puccinia carduorum Jacky Uredinales Pucciniaceae	Carduus nutans Linnaeus musk thistle	Greece	Switzerland BCWLEGR-83-2005	? SPORES
Puccinia carduorum Jacky Uredinales Puccinaceae	Carduus pycnocephalus Linnaeus Italian thistle	Greece	Switzerland BCWLEGR-83-2006	? SPORES
	Rumex crispus Linnaeus curly dock	Greece	Switzerland BCWLEGR-83-2010	? SPORES
Puccinia sp. Uredinales Pucciniaceae	Centaurea calcitrapa Linnaeus purple starthistle	Greece	Switzerland BCWLEGR-83-2016	? SPORES
Pyropteron chrysidiiforme (Esper) Lepidoptera Sesiidae	Rumex crispus Linnaeus curly dock	Italy, Latium	France BCWLE-83-2006	1385 E

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Rhaconotus roslinensis Lal  Hymenoptera Braconidae	Acigona steniellus (Hampson)  SAME	Pakistan	Trinidad & Tobago TAMU-JWS-83-0004	70 C
Rhopalomyia californica Felt  Diptera Cecidomyiidae	Baccharis pilularis pilularis DC.  coyotebush	USA-CA	Trinidad & Tobago TAMU-JWS-83-0008	27 PHL&P
Steinernema glaseri (Steiner, 1929)  Rhabditida Steiner nematidae	Strigoderma arboricola (Fabricius)	USA, NC	USA (Australian Sta) UCD-LEE-83-0004-B	125e L, P
Tolypocladium cylindrosporum Gams  Moniliales	Aedes sierrensis (Ludlow)  western treehole mosquito	USA-CA (ARSEF #705)	Australia IPRU-RAH-83-0041	CULT
Tolypocladium niveum (Rostrup) Bissett  Moniliales	?	Czechoslovakia (ARSEF #616)	Canada IPRU-RAH-83-0066	CULT
Trichogramma nubilale Ertle & Davis  Hymenoptera Trichogrammatidae	Ostrinia nubilalis (Hübner)  European corn borer	USA, DE	China (PRC) BIRL-LRE-83-0017	100e PHE

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Trichogramma pretiosum Riley Hymenoptera Trichogrammatidae	Heliothis virescens (Fabricius) tobacco budworm	USA-AR	China (PRC) BIIL-ACFH-83-0078	215 A, PHE
	Heliothis (s.lat.) sp.	USA-TX	China (PRC) BIIL-ACFH-83-0079	225 A, PHE
Trichosirocalus horridus (Panzer) Coleoptera Curculionidae	Carduus nutans Linnaeus musk thistle	USA-VA	Argentina VPI-LTK-83-0006	300e A
Trirhabda flavolimbata (Mannerheim) Coleoptera Chrysomelidae	Baccharis pilularis consanguinea (DC.) Ktze. kidneywort baccharis	USA-CA	USA (Australian Sta) UCD-LEE-83-0003	50e L
	SAME	USA-CA	USA (Australian Sta) UCD-LEE-83-0005-A	130e L
Triissolcus basalis (Wollaston) Hymenoptera Scelionidae	Nezara viridula (Linnaeus) southern green stink bug	USA-HI	China (ROC) HDA-83-0002	31 PHEM
	SAME	USA-HI	China (ROC) HDA-83-0004-A	36 PHEM
	SAME	USA-HI	China (ROC) HDA-83-0004-B	36 PHEM
	SAME	USA-HI	China (ROC) HDA-83-0006	24 PHEM

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Tytthus mundulus (Breddin) Heteroptera Miridae	Perkinsiella saccharicida Kirkaldy sugarcane delphacid	USA-HI	China (PRC) HDA-83-0007	650e A,N
	SAME	USA-HI	China (PRC) HDA-83-0012	600e A,N
Xylocoris flavipes (Reuter) Heteroptera Anthocoridae	various stored- product insects	USA-GA	UK, England SPIRDL-JWP-83-0001	? A
Xylocoris flavipes (Reuter) Heteroptera Anthocoridae	various stored- product insects	USA-GA	UK, England SPIRDL-JWP-83-0003	? A
Zoophthora aphidis (Hoffmann) Batko Entomophthorales Entomophthoraceae	Anoecia corni (Fabricius)	Switzerland (ARSEF #425)	Australia IPRU-RAH-83-0017	CULT
	SAME	Switzerland (ARSEF #425)	Israel IPRU-RAH-83-0043	CULT
Zoophthora occidentalis (Thaxter) Batko Entomophthorales Entomophthoraceae	Macrosiphum euphorbiae (Thomas) potato aphid	USA-ME (ARSEF #207)	Japan IPRU-RAH-83-0075	CULT
	SAME	USA-ME (ARSEF #207)	Israel IPRU-RAH-83-0042	CULT

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Zoophthora phalloides Batko Entomophthorales Entomophthoraceae	Macrosiphum ranunculinum Walker =Tubaphis ranunculina (Walker)	? (ARSEF #352)	Japan IPRU-RAH-83-0076	CULT
Zoophthora radicans (Brefeld) Batko Entomophthorales Entomophthoraceae	Choristoneura fumiferana (Clemens) spruce budworm	USA-ME (ARSEF #141)	China (PRC) IPRU-RAH-83-0021	CULT
Zoophthora radicans (Brefeld) Batko Entomophthorales Entomophthoraceae	Tortrix viridana Linnaeus	France (ARSEF #68)	Brazil IPRU-RAH-83-0055	CULT
Zoophthora radicans (Brefeld) Batko Entomophthorales Entomophthoraceae	Lambdina fiscellaria fiscellaria (Guenée) hemlock looper	Canada (ARSEF #72)	Brazil IPRU-RAH-83-0056	CULT
Zoophthora radicans (Brefeld) Batko Entomophthorales Entomophthoraceae	Choristoneura fumiferana (Clemens) spruce budworm	USA-ME (ARSEF #141)	Brazil IPRU-RAH-83-0057	CULT
Zoophthora radicans (Brefeld) Batko Entomophthorales Entomophthoraceae	Therioaphis maculata (Buckton) spotted alfalfa aphid	Israel (ARSEF #104)	Japan IPRU-RAH-83-0071	CULT
Zoophthora radicans (Brefeld) Batko Entomophthorales Entomophthoraceae	SAME	Australia (ARSEF #359)	Japan IPRU-RAH-83-0072	CULT

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**SECTION VII - SHIPMENTS OF BENEFICIAL ORGANISMS FROM U.S. AND TERRITORIAL FACILITIES TO FOREIGN COUNTRIES**  
Arranged Alphabetically by Genus-species of Organism Shipped

Species Shipped - Genus, Species, Subsp. Author, Order, Family	Host/Prey at Collection Site Genus, Species, Subsp. Author, Common Name	Origin	Shipped to Country Shipper File Number	Shipped - No. Stage
Zygogramma disrupta Rogers Coleoptera Chrysomelidae	Ambrosia psilostachya DC western ragweed	USA-TX	USSR GSWRL-CJD-83-0001	418 A, L
natural enemies of baccharis	Baccharis pilularis consanguinea (DC.) Ktze. kidneywort baccharis	USA-CA	USA (Australian Sta) UCD-LEE-83-0001	? A, L
parasites of bark beetles NOTE: 137, 139	Ips spp.	USA-GA	Australia UGA-CWB-83-0001	? A, C
parasites of pineapple mealybugs	Dysmicoccus brevipes (Cockerell) pineapple mealybug	USA-HI	South Africa HDA-83-0013	? PHL
parasites of pineapple mealybugs	Dysmicoccus brevipes (Cockerell) pineapple mealybug	USA-HI	South Africa HDA-83-0015	60e A, PHL
predators of bark beetles NOTE: 138	Dendroctonus frontalis Zimmermann southern pine beetle	USA-GA	Australia UGA-CWB-83-0002	? A, L

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NOTES

137 Data are not available on actual parasite species shipped by UGA to Australia in 1983. The following were sent from Georgia in 1982-86: Roptrocerus xylophagorum (Ratzeburg), Dendrosoter sulcatus Muesebeck, Spathius pallidus Ashmead, Eurytoma conica Provancher, Coeloides pissodis (Ashmead) & Heterospilus sp. (see Berisford, C L, & D L Dahlsten, 1989; cited in Note 138).

138 Data are not available on actual predator species shipped by UGA to Australia in 1983. The following were sent from Georgia in 1982-86: Thanasimus dubius (Fabricius) (Col.: Cleridae) & Temnochila virescens (Fabricius) (Col.: Trogositidae) (see Berisford & Dahlsten, pp. 81-93 in Kulhavy, D L, & M C Miller, "Potential for Biological Control ... Bark Beetles," 1989.)

139 No species are recorded as sent from California to Australia in 1983. However, with the 2 species recorded as shipped by UCB in the 1982 ROBO Rpt., a third species, Coeloides sympitys Mason, was also sent in 1982 (now recorded as UCB-DLD-83-0013 in the ROBO database), teste D L Dahlsten, UCB, 1992.

157 Original host for ARSEF #326 was originally reported as "rice stem borer," and later assumed to be Chilo plejadellus. A 1979 report from R. S. Soper lists original host of RS 326 as Nilaparvata lugens.

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## SECTION VIII - PARTICIPATING RESEARCH AND ACTION AGENCY PERSONNEL - 1983

## PART A - Quarantine Facilities, Listed Alphabetically by acronym, with Addresses and Quarantine Officers

1. BBSL	Bee Biology and Systematics Lab ARS, USDA Utah State University Logan UT 84322 USA	D F Viers, Quarantine Officer
2. BCIRL	Biological Control of Insects Res Lab ARS, USDA Research Park, P.O. Box A Columbia MO 65205 USA	B Puttler, Quarantine Officer
3. BCWRL	Biological Control of Weeds Research Lab ARS, USDA 1050 San Pablo Ave Albany CA 94706 USA	A H Krueger, Quarantine Officer
4. BIIL-PPQ	Plant Germplasm Quarantine Center APHIS-PPQ, USDA (c/o BIIL) Bldg. 320, BARC-East Beltsville MD 20705 USA	c/o S W T Batra, BIIL
5. BIRL	Beneficial Insects Research Laboratory ARS, USDA 501 South Chapel Street Newark DE 19713 USA	L R Ertle, Quarantine Officer
6. FBCL	Florida Biological Control Laboratory Division of Plant Industry, FDACS P.O. Box 1269 Gainesville FL 32602 USA	C A Bennett, Quarantine Officer
7. GSWRL	Grassland, Soil and Water Research Lab ARS, USDA P.O. Box 748 Temple TX 76501 USA	P E Boldt, Quarantine Officer
8. HDA	Hawaii Department of Agriculture 1428 South King Street Honolulu, Oahu HI 96814 USA	G Y Funasaki, Quarantine Officer
9. IPRU	Insect Pathology Research Unit (& ARSEF) ARS, USDA c/o Boyce Thompson Inst. Cornell Univ Ithaca NY 14853 USA	R A Humber, Quarantine Officer
10. PDRL	Plant Disease Research Laboratory ARS, USDA P.O. Box 1209 Frederick MD 21701 USA	W L Bruckart, Quarantine Officer
11. SRQF	Stoneville Research Quarantine Facility ARS, USDA P.O. Box 225 Stoneville MS 38776 USA	W W Harrison, Quarantine Officer
12. TAMU	Texas A&M University Department of Entomology College Station TX 77843 USA	J P Cuda/M J Rose, Quarantine Officers
13. UCB	University of California, Berkeley Division of Biological Control Department of Entomology Albany CA 94706 USA	J Hamai, Quarantine Officer

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**SECTION VIII - PARTICIPATING RESEARCH AND ACTION AGENCY PERSONNEL - 1983**

**PART A - Quarantine Facilities, Listed Alphabetically by acronym, with Addresses and Quarantine Officers**

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14. UCD	University of California, Davis Davis CA 95616 USA	Department of Entomology	L E Ehler, Quarantine Officer
15. UCR	University of California, Riverside Division of Biological Control Department of Entomology	Riverside CA 92521 USA	M E Badgley, Quarantine Officer
16. UFGPPD	Plant Pathology Department	University of Florida Gainesville FL 32611 USA	R Charudattan, Quarantine Officer
17. VPI	Virginia Polytechnic Inst & State Univ Department of Entomology Blacksburg VA 24061 USA		L T Kok, Quarantine Officer
18. VTERL	Veterinary Toxicology & Entomol Res Lab	ARS, USDA P. O. Drawer GE College Station TX 77841 USA	G T Fincher, Quarantine Officer

**ANNUAL REPORT OF INTRODUCED BENEFICIAL ORGANISMS RELEASED IN THE UNITED STATES AND TERRITORIES - 1983**  
**SECTION IX - SUMMARY INFORMATION - 1983**

	<u>Total Number of Species Released</u>	<u>Total Number of Specimens Released</u>	<u>Total Number of Hosts/Prey Released Against</u>	<u>Total Number States/Terr. Releases Made</u>	<u>Total Number of Counties Releases Made</u>
<b>Parasites</b>	117	14,672,691e+	70	45	809
<b>Predators</b>	47	571,934e+	16	14	34
<b>Weed Control Agents</b>	29	11,896,081e+	21	22	149
<b>Microbial Agents</b>	3	N/A	3	3	6
<b>Pollinators</b>	3	13,749e	N/A	19	32
<b>Other Beneficial Species</b>	4	2,708	N/A	1	3
<b>Grand Totals</b>	203	27,157,163e+	99	51	924

+ = Some records with unknown release amounts

**NOTE:** Some parasites and predators were released against the same hosts/prey and therefore the grand total is not a sum of the figures in that column. Similarly, several kinds of beneficial organisms were released in the same States/Territories and counties, and the grand totals are not the sums of the figures in those columns.





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